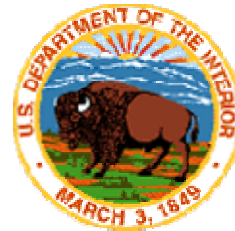




DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
REDDING FIELD OFFICE
355 Hemsted Dr.
Redding, CA 96002



**Swasey Drive Planning Area
(Area of Critical Environmental Concern
and Adjoining Public Lands)
Activity Plan
and Environmental Assessment**

Shasta County, California

October 2003



Frontispiece: Clikapudi Corner-notched Projectile Point (Obsidian)



United States Department of the Interior

Bureau of Land Management

Redding Field Office

355 Hemsted Drive

Redding, California 96002-0910

email caweb360@ca.blm.gov, *phone* (530) 224-2100, *telefax* (530) 224-2172

October 30, 2003



IN REPLY REFER TO:

1610 (P)

(CA-360-2131)

Dear Reader:

Redding BLM Field Office proposes to establish a formal plan for the use and protection of public land adjacent to and within the Area of Critical Environmental Concern (ACEC) west of Swasey Drive near Redding in Shasta County.

A copy of this document may be obtained from the Redding Field Office, 355 Hemsted Dr., Redding, CA, 96002; telephone 530-224-2100, or by requesting it by visiting the website at www.ca.blm.gov/redding/index.html. All parties currently on the distribution list for this planning action are being mailed copies.

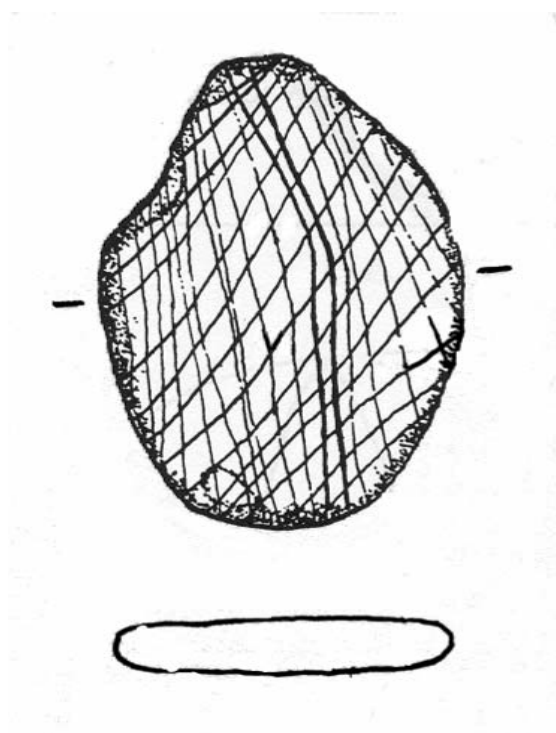
A news release will announce the availability of this document that will start a 30-day public comment period in accordance with planning regulations in 43 CFR 1610.5. A public meeting will be held early in the comment period to discuss the draft plan and to receive additional issues or comments.

At the end of the public comment period a response will be prepared to any new issues raised. Any **significant** changes to the draft plan will be made available for public inspection before a final decision record is signed.

For additional information, please call Dr. Eric Ritter, BLM Archaeologist, at 530-224-2100.

Sincerely,

Chuck Schultz
Field Manager



Incised Stone, Middle Mule Pond

EXECUTIVE SUMMARY

The Bureau of Land Management (BLM) is developing an activity level strategy or management plan for the Swasey Planning Area which includes both the Swasey Area of Critical Environmental Concern (ACEC) and surrounding lands totaling 1,250 acres. This area is situated within the west Redding foothills encompassing the upper Olney Creek watershed of Shasta County, California. This planning effort is a consequence of BLM's 1993 Resource Management Plan (RMP) for the lands administered by the Redding Field Office.

Since the planning area core is a cultural resource-related ACEC, the plan seeks to ensure that remnants of prehistoric and historic use are preserved, studied and interpreted. The plan considers a variety of human uses and enjoyment of the public lands within the Swasey Drive Planning Area. The plan also decides between competing human uses, provides for non-motorized recreation, protects wildlife habitat and watershed stability, seeks to safeguard users and neighbors alike from errant gunfire, and addresses wildland-urban interface fire hazards.

Preliminary scoping of **planning issues** for the area, both those from staff members and those solicited by mail from agencies and the public revealed the following as most significant: **cultural resources, firearm use, human health and safety, motorized vehicle use, and accelerated soil erosion.**

A number of general management activities common to all proposed alternatives have been proposed. These include archaeological site protection and interpretation; law enforcement patrol and assistance; protection of water and soil quality; public health and safety; protection of wildlife habitat; semi-primitive recreation use (including existing and developed trail systems and permitted camping only); environmental education; mining of locatable minerals; existing utility/transportation rights-of-way; protection-information facility maintenance/signing and visitor information; prevention of private land trespass; fire protection/prevention and vegetation manipulation; removal of noxious weeds and plants; trash removal/cleanup; road and trail maintenance; administration, and land tenure decisions.

Three management alternatives have been proposed in addition to the existing management situation. **Alternative 1, the Proposed Action (Resource Protection Emphasis and Qualified Recreation Uses)** includes a nighttime closure to vehicle use; construction of various fences and gates; parking lot construction; retention of public lands (portions of Section 6 and 7) scheduled for disposal in the RMP; closure of the existing gun range at night and complete closure after two years following plan approval; continued use of designated routes for vehicular travel; erosion stabilization at select locations; heritage tourism promotion; hunting throughout the area; all other firearm use restricted to the gun range; and select bee hive placement.

Under **Alternative 2**, the **Public Recreation Alternative**, currently designated routes for motorized travel would remain; construction of barriers and fences would selectively occur; the gun range would be further developed through trenching, target alignments, range adoption by private interests, etc. with a nighttime closure; the public lands scheduled for disposal will be retained--BLM will seek acquisition of the private in-holding at fair-market value; a primitive group campground near Swasey Drive would be established; hunting will remain open with non-hunting related shooting away from the gun range prohibited; and select bee hive placement will be allowed.

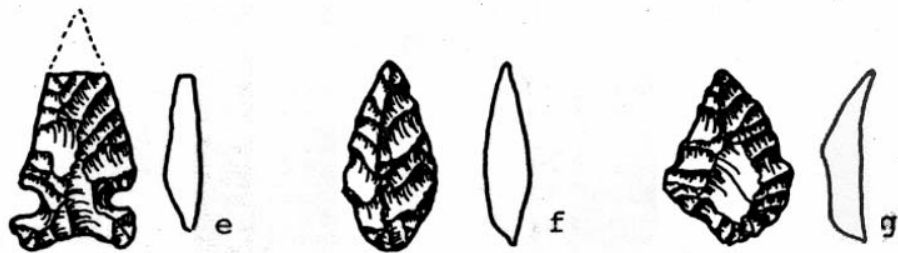
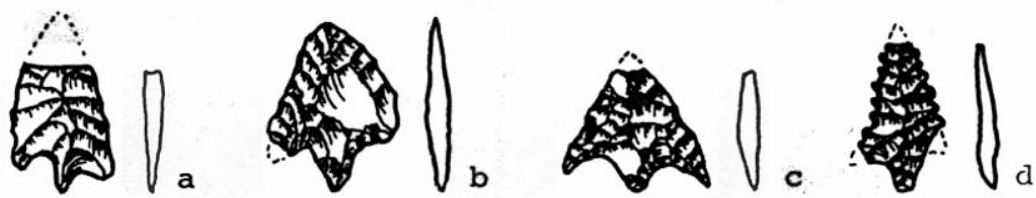
Under **Alternative 3**, the **Mixed Public Use and Resource Protection Alternative**, the area will be closed to motorized entry except by special permit; gates, fences and a parking lot will be constructed; the existing gun range will be open for group shoots or organized events only with further development of the range; there will be a nighttime closure to shooting and vehicular use; a primitive group campground may be established; hunting is allowed and non hunting recreation shooting away from the shooting area is prohibited. Select bee hive placement would be acceptable.

In the environmental analysis, under **existing conditions** cultural resources would continue to be managed on a makeshift basis with at least one site per year expected to be damaged. Firearms use would continue to pose safety concerns. Fire and fuel management practices are expected to prevent approximately one incident per 5-10 years (which is the case in all alternatives). Off-road motorized vehicle disturbances to the ground will continue at a rate of about 1 surface acre per year of soil disturbance. Disposal of select lands could lead through construction activities and intensified land use to watershed and habitat damage and other intrusions on cultural and natural resources. If the one private in-holding is not acquired (as proposed in all alternatives except existing conditions) there could be increased management costs due to the close proximity of public resources and developments on the private parcel. Such proximity to a newly established built environment might lead to increased auditory and visual increases and unwanted disturbance to visitors wishing to appreciate the local cultural sites and natural resources. It could as well lead to increased management costs such as from delineation and fencing of boundaries, rights-of-way work, monitoring for illegal intrusions such as from off-road vehicles, etc.

Under **Alternative 1**, effects on cultural resources would be lowered to fewer than one incident per year coupled with increased public interpretation and education opportunities. Firearm use will be phased out with fewer dangerous incidents but hundreds of less visitor days devoted to this activity each year. Motorized vehicle use will be curtailed with fewer recreation days devoted to this activity but also a decrease in soil and habitat damage and visual and auditory intrusions to other recreationalists. There will be a decrease of 10 or less cubic meters of sedimentation per year. Retention of public lands would curtail archery club expansion but would allow more efficient management of the larger area with a broad spectrum of recreation opportunities and less illegal intrusions such as from off-highway motorized vehicles and dumping of trash. Non-motorized recreation trail use will increase by hundreds of visitors per year.

Increased visitor use of the area under **Alternative 2** could lead to inadvertent damage to archaeological sites (one or more incidents per year). Development of a formal gun range would increase this recreation opportunity by hundreds of visitor days per year. However, safety and liability issues would rise and illegal shooting away from the range could prove hazardous to nearby homeowners, trail users and other recreationalists. Motorized vehicle use would continue to lead to sediment loss at a rate probably not exceeding 10 cubic yards per year. Construction of a primitive campground would provide more use of this type by hundreds of visitor days. On the other hand, it would increase management costs by hundreds to thousands of dollars per year.

Alternative 3 would enhance archaeological site protection to some sites by limiting visitor use. Other sites in remote locations may be damaged due to relative seclusion (where an individual could hide while looting a site). Firearm use would remain a safety issue from the possibility of errant bullets from the range area. Off-road motorized vehicle play will be reduced by 50% from current conditions. This would lead to a decrease in soil erosion (prevention of 5-10 cubic yards of soil/sediment loss per year). There would be an increase of perhaps hundreds of non-motorized trail use visits per year.



Middle Mule Pond Site Projectile Points

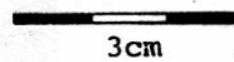


TABLE OF CONTENTS

	<u>Page</u>
Dear Reader Letter	i
Executive Summary	iii
Table of Contents	vii
 Chapter 1. Introduction	 1
A. Purpose and Need for the Plan	1
B. Overall Vision for the Area	3
C. Objectives and Standards to Meet the Goals	3
1. Cultural Resources	3
2. Transportation	4
3. Shooting	4
4. Noxious Weeds	4
5. Fuels and Fire	4
6. Fisheries and Wildlife	4
D. Planning Criteria and Legislative Constraints	4
E. Planning Process	4
Relationship to BLM policies, plans, and programs	4
F. Scoping, Planning Issues	6
1. BLM Internal Issue Identification	6
2. Distribution of Public Scoping Document	7
3. Planning Issues and Decisions Addressed by the Plan	7
4. Issues Considered but not further Analyzed	11
 Chapter 2. Proposed Management Plan and Alternatives	 14
A. Management Activities Common to Each Alternative	14
B. Existing Situation, Proposed Action and Alternatives	18
1. Existing Situation	18
2. Alternative 1--Proposed Action: Resource Protection Emphasis and Qualified Recreation Uses	18
3. Alternative 2—Public Recreation Alternative	22
4. Alternative 3—Mixed Public Use and Resource Protection	24
 Chapter 3. Affected Environment	 27
A. Historic Resources/Background	27
B. Native American Indian Resources/Background	28
C. Prehistoric Cultural Resources	29
D. Geography, Geology and Soils	30
E. Native Vegetation	30
F. Weeds	31
G. Wildlife and Fisheries	31
H. Minerals	32

I. Existing Infrastructure	32
J. Existing Rights-of-Way—Authorizations	32
K. Recreation	32
L. Visual Resource Management	33
M. Hazardous Waste: Lead within the Shooting Area	33
N. Fire and Fuels	34
Chapter 4. Environmental Effects of the Proposed Plan and Alternatives	35
A. Continue Existing Management	35
B. Alternative 1 (Proposed Action)	36
C. Alternative 2 (Public Recreation Emphasis).....	37
D. Alternative 3 (Mixed Public Use and Resource Protection Emphasis)	39
Chapter 5. Cumulative Effects and Irreversible and Irretrievable Commitment of Resources.....	40
Chapter 6 - Coordination and Consultation	43
Public participation with plan implementation.....	(forthcoming)
Agencies, local governments, tribes, organizations.....	(forthcoming)
Consultation with U.S. Fish and Wildlife Service.....	(forthcoming)
List of Preparers	44
Figures	
Figure 1 (Planning Area Map)	2
Figure 2 (Existing and Proposed Recreation Trails Map)	13
Figure 3 (Alternative 1: Proposed Action Map)	20
Figure 4 (Alternative 2: Public Recreation Map)	23
Figure 5 (Alternative 3: Mixed Public Use and Resource Protection Map).....	26
Appendices	
Appendix 1 Known Archaeology Sites in the Planning Area	45
Appendix 2 Road Standards	46
Appendix 3 Soil Analytical Results for Select Cations	49
Appendix 4 Fuels and Fire Goals and Strategy	68
Table	
Table of Implementation.....	73

CHAPTER 1--INTRODUCTION

The Swasey Planning Area, which includes the Swasey Drive Area of Critical Environmental Concern (ACEC) and adjoining public lands, is a 1,250-acre (about 2 square miles) parcel on Swasey Drive, located just west of Redding, California. The ACEC portion was designated in the Redding Resource Management Plan (RMP) completed by the Bureau of Land Management (BLM) in 1993. The purpose of the designation is to conserve and interpret prehistoric and historic archaeological resources on public lands. Land use allocations for the larger planning area based on the 1993 RMP are to manage it as a Semi-Primitive Motorized recreation area with vehicles limited to designated roads and trails (RMP pp. 44-45). This current implementation or activity plan and environmental assessment by BLM describes the future uses and management for the Swasey Drive Planning Area.

This Planning Area is in the western valley foothills of Shasta County (Figure 1) bounded on the east by Swasey Drive and on the west by the Mule Mountain ridge and Whiskeytown-Shasta-Trinity National Recreation Area. The south boundary is along the Middle Creek Estates residential development. The north boundary coincides partially with the National Recreation Area boundary and relatively undeveloped foothills. This semi-rural area is located in the northwest end of California's Sacramento Valley within Township 31 N., Range 5 W., portions of sections 6 and 7, and Township 31 N., Range 6 W., all of Section 12, and part of Section 11 (Figure 1). The location is west of the Redding city limits, within the upper basin of Olney Creek, a secondary drainage of the Sacramento River. Redding itself is a growing urban center with considerable human use influences on this study area.

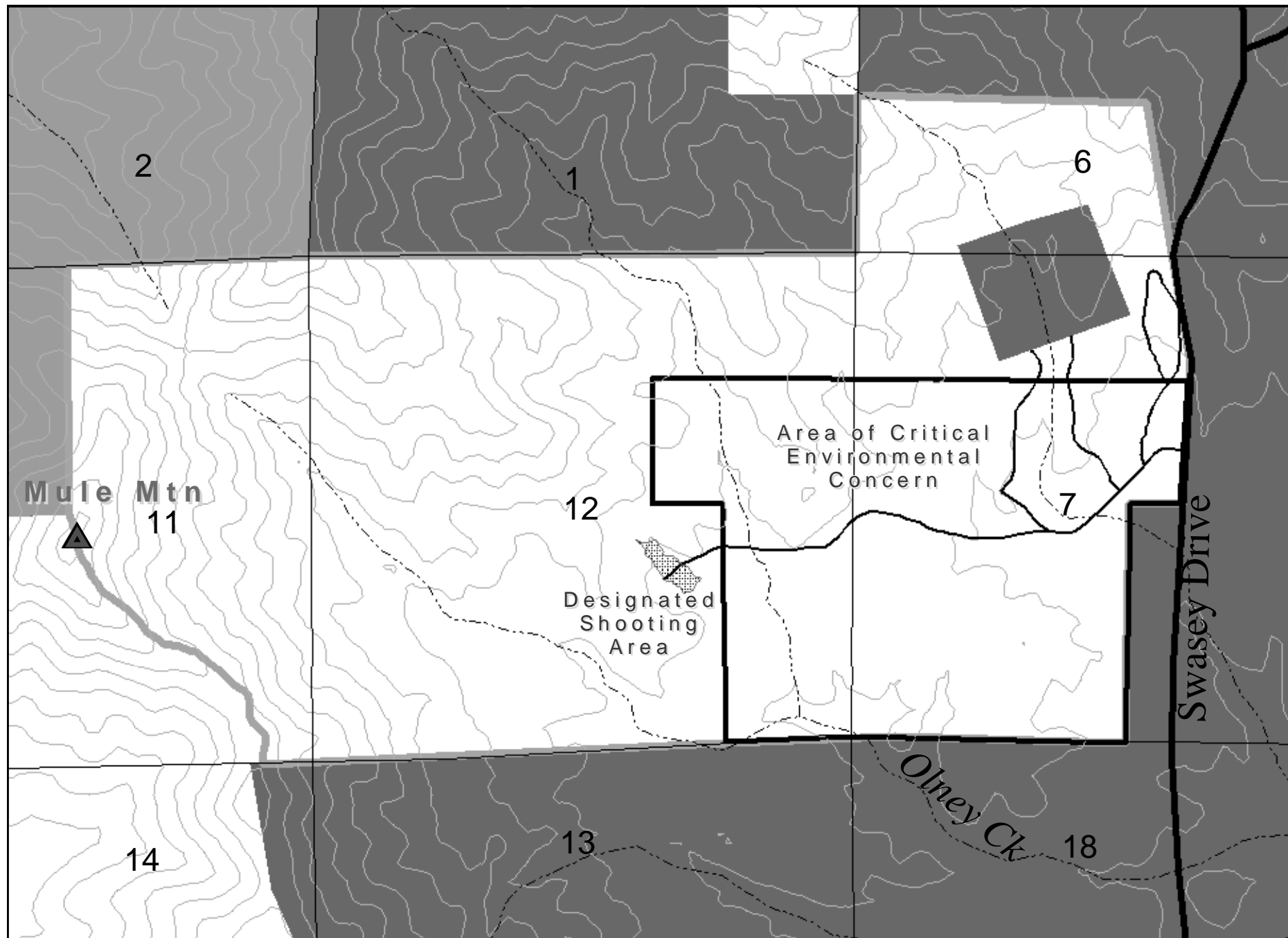
This plan is valuable to the public by protecting and enhancing historic and prehistoric cultural resources. The plan will specify the management actions that will safeguard the ecosystem and watershed, allow compatible public uses of the resources, foster public safety, and observe private property rights.

A. PURPOSE AND NEED FOR THE PLAN AND ENVIRONMENTAL ASSESSMENT

In 1993 after extensive public and internal involvement, BLM approved the RMP and Record of Decision that provides guidance for managing public lands scattered throughout north-central California, including Shasta County. The RMP identifies by subregion various land-use choices and prescriptions. On page 46 is stated the need to "Develop a management plan for the long-term protection of the Swasey Drive cultural resources' ACEC (Area of Environmental Concern)." Furthermore, "The Swasey Drive cultural resources ACEC has a number of prehistoric sites that are uncommon in public stewardship (see Appendix 1). The proximity of a large population center (greater Anderson-Redding-Shasta Lake City) has resulted in ongoing damage to these irreplaceable values. Special management attention is required and designation as an ACEC is warranted." The ACEC forms the **core** of this planning effort.

SWASEY DRIVE PLANNING AREA

Figure 1



0 0.25 0.5 Miles



Shasta County



Legend

- | | | |
|--|----------------------------|-----------------|
| Implementation Plan Boundary | Designated Road | BLM Public Land |
| Area of Critical Environmental Concern | National Park Service Land | Private Land |
| Shooting Area | | |

The immediate adjoining lands outside the ACEC covered by this implementation plan are sustaining substantial resource use intensities and there is enough public interest in their management that they are included as part of a larger planning effort (Figure 2). Aside from geographic continuity, and the fact that the adjoining lands are in the same upper Olney Creek watershed, this larger land area combines human-uses that originate from the ACEC and locations where there are continuing conflicts between users and resource protection. This location also provides an exact interface with the National Park Service's Whiskeytown-Shasta-Trinity National Recreation Area and an adjoining planning area.

Just before starting this planning effort, the BLM was in the process of issuing a *Federal Register* notice as a supplementary rule prohibiting the use of motorized vehicles in the planning area from 1 hour after sunset to 1 hour before sunrise. That rulemaking was cancelled in lieu of this planning effort.

Planning prescriptions for the public lands adjoining the ACEC, part of the identified Lower Clear Creek and Mule Mountain area, include: (1) enhance anadromous salmonid habitats; (2) restore the quality and quantity of riparian vegetation to Class I and II; (3) protect the native plant communities and associated fauna of the area; and (4) protect the historic values of the area.

Further need for this implementation plan other than damage to cultural resources is warranted based on conflicting public uses on the BLM land, expanding developments on adjoining private land, and public safety concerns. Also, this area is sustaining increased visitation since the RMP was completed. Various new interests, primarily related to recreation (horseback riding, mountain bike riding, hiking, environmental education, meditation, archaeological tours, and archery range expansion) have been expressed by the public.

B. Overall Vision for the Planning Area

This plan seeks to ensure that the remnants of prehistoric and historic habitation and events are preserved for appreciation by present and future visitors and students of the past and that these resources are available for scientific-based research and public-oriented interpretive opportunities. This plan considers a variety of human uses and enjoyment of the public lands within the Swasey Drive Planning Area. This plan decides between competing human uses, provides for non-motorized recreation, protects wildlife habitat and watershed stability, seeks to protect users and neighbors alike from errant gunfire, and addresses wildland fire hazards.

C. Objectives and Standards to Meet the Goals

1. Cultural Resources: The basic objective is the protection of cultural resources from human and natural agents. The sites need to be stabilized from deterioration to the extent feasible and reasonable. Such resources also form a data base that can be

studied by professional researchers, visited by local Native American Indians for spiritual and inspirational purposes, and judiciously interpreted to the public.

2. Transportation: Roads designated in the RMP will remain open except under one alternative where permitted use will be allowed (e.g., for special events, rights-of-way, administrative access, etc.). In other alternatives should resource damages be judged excessive from vehicular actions, such roads will be closed and limited to special (permitted) use. Road closure will require a RMP amendment.

3. Shooting: It is the intention to phase out the unofficial shooting area and only allow hunting within the area. The phasing will depend on the amount, if any, of illegal incidents such as shooting away from the range, excessive dumping of trash, adjoining private property damage, and target and firearm-related littering.

4. Noxious Weeds: BLM will concentrate initial noxious weed removal on *Arundo* and Himalayan blackberries followed by other types as identified in the existing environment section. While a noxious weed-free area is an ideal, such is not practical considering some species such as star thistle.

5. Fuels and Fire: BLM plans on establishing shaded fuel breaks to curtail catastrophic fires. Also, BLM intends to conduct limited controlled burns during the fall after initial rains to hold back catastrophic burns and to return portions of the area to conditions similar to those likely present during the mid-19th century prior to grazing, fire restrictions, and infestations of noxious weeds.

6. Fisheries and Wildlife: Ground-disturbing projects will be kept 100 feet from Olney Creek except at established crossings. Survey and Manage species identified in the Northwest Forest Plan, federally protected salmonid species listed as Threatened and Endangered under the Endangered Species Act, and foothill yellow-legged frogs (BLM Sensitive Species) will be evaluated for presence and potential impacts prior to project approval.

D. Planning Criteria / Legislative Constraints

Planning criteria are the standards or rules used for data collection and forming management plan alternatives that guide the final plan selection. Criteria are developed from appropriate laws and regulations, BLM manuals, and policy directives, as well as concerns from the public and other agencies.

E. Planning Process

Relationship to BLM Policies, Plans and Programs

The Redding Field Office is the administrative unit for the planning area with general guidance provided by the RMP. This document follows planning regulations issued under

the authority of the Federal Land Policy and Management Act of 1976 (FLPMA) and in conformance with regulations established by the Council on Environmental Quality regarding the preparation of environmental documents as required by the National Environmental Policy Act of 1970. Implementation plans are undertaken under authority of 40 CFR 1600 (Code of Federal Regulations–CFR) with environmental procedures detailed in 43 CFR 1500. Most plan implementation decisions are made by the BLM State Director. Plan implementation procedures can be appealed to the Interior Board of Land Appeals under 43 CFR 4.411 and are not subject to protest provisions in 43 CFR 1610.5-2.

Major guidelines for this implementation plan also follow Federal agency responsibilities under Section 110 of the 1966 National Historic Preservation Act (Public Law 89-665; 80 Stat. 915; 16 U.S.C. 470 as amended by Public laws 91-243, 93-54, 94-422, 94-458, 96-199, 96-244, 96-515, 98-483, 99-514, 100-127 and 102-575). These guidelines were published in the Federal Register of February 17, 1988 (53 FR 4727-46) and provide general and specific responsibilities of Federal agencies in the identification, evaluation, registration, and protection for properties of historic, archaeological, architectural, engineering, or cultural significance. Because the heart of this planning effort is an ACEC designated due to the presence of significant, threatened cultural resources, these Section 110 guidelines are particularly relevant to this planning effort.

Factors that influence decision priorities relate to: (1) statutory mandates; (2) relationship to RMP decisions; (3) present risk to resources; (4) likelihood of success; (5) cost-effectiveness of actions; (6) willingness and availability of cooperators to meet similar resource objectives for adjacent non-Federal lands and resources; (7) human safety questions; and (8) budgetary and staff resource availability as projected over the next 10-20 years.

The RMP (pg. 8) states “Any change to land use allocations, restrictions or uses will be affected only through a formal plan amendment or revision prepared in conformance with BLM planning regulations found in Section 1610.4 of Title 43 of the Code of Federal Regulations. Agencies, organizations and individuals with an expressed interest . . . will be informed of any potential consequential changes and will be provided an opportunity to participate in amendment and revision processes.” In the case of the Swasey Drive planning effort, some changes could necessitate an amendment to the RMP, for example: changing of the ACEC boundaries, termination of designated roads, and land acquisition in the planning area.

Other general relevant management guidance discussed in the RMP relate to: (1) maintaining air quality to legal and local planning standards; (2) fire management, including suppression and hazard reduction; (3) woodland management; (4) hazardous materials’ management; (5) consolidation of resource management units and land use authorizations; (6) livestock grazing; (7) minerals use; (8) maintenance of water quality; (9) prevention of impairment of soil cover; (10) offering recreation opportunities as defined by the Recreation Opportunity Spectrum; (11) designation, conservation, and management of officially listed threatened and endangered plants and wildlife and their critical habitats;

(12) keeping the area in a Class III or better Visual Resource Management class; (13) enhancing and protecting wildlife habitat; (14) provide for a Desired Plant Community; (15) more general protection or maintenance of existing resource conditions; and (16) continuation of existing leases, contracts or other authorizations unless specifically canceled or terminated following the Code of Federal Regulations. As discussed above, these various topics in most cases are integral parts of the main planning issues and recommendations for actions presented later in this plan.

F. Scoping, Planning Issues

1. BLM Internal Initial Issue Identification Process to Develop Alternatives

An internal interdisciplinary planning team was established in late 2000 to begin the work effort on the Swasey Implementation Plan. This BLM team consists of a team leader/archaeologist and specialists in botany, recreation, off-highway vehicles, realty/lands, planning, wildlife, fisheries, geology and minerals, law enforcement, engineering, hazardous waste, construction/facility maintenance, and public lands' management. These employees (see a participant list in back of the document) collectively have scores of years of discipline and regional experience and are intimately familiar with the planning area.

Internal BLM planning sessions were held throughout the planning process beginning in January 2001, including a number of field visits to the planning area. There were previous ad-hoc meetings of public and private individuals during the early 1990s dealing with the issue of firearm use and safety within the area. These meetings resulted in increased BLM vigilance within the area, safety signing, restrictions of use of firearms in some areas except during the hunting seasons, and citations for various offenses in the area (538 documented incidents in the area between 1997 and August, 2003).

Finally, various management actions and activities have occurred in the planning area over the last several decades that form a planning foundation for consideration. An information kiosk was placed at the main road entrance to the planning area with other use-signing posted throughout. Much of the planning area has been inventoried for archaeological resources. Three archaeological sites have been professionally test-excavated, fenced and signed. Non designated roads in instances have been blocked. Miners have left bladed roads and trenches in a few places. Relatively large clearings (now partially overgrown) have been bulldozed for fire breaks. The ridge along Mule Mountain has been modified into a shaded fuel break. A mine shaft has been filled to protect public safety. The main designated roads through the area have been maintained on a yearly basis. Apiary use has been continuous for more than a decade. A small wildfire was recently suppressed. Trash pickup has been continual. Various permitted recreation activities have been authorized. BLM law enforcement visits are frequent here.

2. Preparation and Distribution of the Public Scoping Document for Further Issue Identification

As part of the planning effort the public was notified of this land use plan endeavor. The public and governmental agencies were invited to participate by identifying planning issues. A broad range of individuals, groups, tribes and agencies was solicited for input. These included individuals on the local BLM mailing list, neighbors, and numerous groups and agencies that were thought to potentially have an interest.

The Scoping Document for the Swasey Area Implementation Plan and Environmental Analysis Record announcement was posted on BLM's web site and a request for input was posted at the Redding BLM office front counter. Also, a notice of the planning effort and issue identification process and study area map were posted on the BLM kiosk at the main entrance to the Swasey Drive planning area.

Eleven formal responses were received as a result of the Scoping Document solicitation. Seven of the responses were from individuals; two were from groups (Straight Arrow Bowhunters, Inc. and North State Health Improvement Network), and two were from Shasta County (Department of Resource Management and Office of the Sheriff).

The responses generally support the issues raised internally by BLM staff and the multiple use concept. Various responses were both for and against the shooting area, and shooting in general, and pro and con regarding motorized vehicle use in the area, and about boundary adjustments. Public access and safety was clearly an issue along with increased law enforcement. Wildfire control considerations were strongly expressed and a general concern was conveyed that controlled burns not occur. Among the many topics raised in the letters was an advocacy for more non motorized recreation/nature trails, including those for mobility impaired individuals; interpretation; erosion control and habitat/watershed improvement; upgraded signing; and consideration of trespass problems. Support was unanimous for cultural resource protection.

3. Planning Issues and Decisions Addressed by this Plan

The Scoping Document planning issues and potential solutions' scenarios as well as a list of other concerns that may or may not be major planning issues at the time of public scoping are listed below. Offered first are the BLM's issues' assessment followed by comments from the public regarding the proposed issues and others that they introduced or augmented. Those issues considered most significant in this planning effort are **highlighted**.

Based on BLM's staff analysis and comments received as a result of the broadly distributed *Scoping Document for the Swasey Area Implementation Plan and Environmental Analysis Record*, a number of potential management problems have been dismissed from full analysis. These areas of question and rationale for their secondary consideration are presented below. These considered issues have **not** been highlighted.

a. Cultural Resources: With over one-half of the planning area identified as an ACEC because of the presence of fragile historic and prehistoric resources, a paramount consideration in the planning effort is directed toward archaeological site protection, conservation, research and interpretation.

Potential Solutions: Fencing, monitoring, signing, vehicular closures, site stewardship, law enforcement vigilance, promotion of research and educational opportunities, development of an interpretive trail(s), and withdrawal of portions of the planning area from mineral entry.

b. Firearm Use: A shooting area created in the 1960s by the National Guard and general firearm use near residential developments and other recreational and public land uses have been identified as a major issue for planning consideration. While certain restrictions away from the shooting area already exist (e.g., certain zones are closed to non hunting firearm use), a determination must be made on the extent, direction of shooting, and type of firearm use, if any, that will be allowed within the overall planning area. Currently there is one permit for firearms training at the shooting area. A corollary concern is the trash that continues to be left behind by shooters.

Potential Solutions: Increase law enforcement vigilance; limit firearm use to hunting only; development of a formal shooting range with limited directional shooting; closure of some or all of the planning area to use of some or all firearms on a temporary or permanent basis; designation of certain fields of the shooting area for certain types of firearms (skeet, pistol, rifle, air gun, paint guns); presence of a shooting range host; shooting club adoption; reissue of the existing permit for another area and safety buffers for trail development and use.

c. Human Health and Safety: Wildfire management and prevention is of considerable concern in the Swasey area, a wildland-urban interface. Another concern is the dumping of trash and possible hazardous waste and lead contamination within the firing range area. BLM is highly concerned with the public's safety and the agency's liability in developing or promoting certain types of uses where safety is a particular concern. It is the agency's hope that what uses or use levels are compatible with public safety can be resolved through this planning effort.

Potential Solutions: Careful construction of fuel breaks within the planning area as along the main east-west road corridor; proper timing and direction of low intensity controlled burns. Maintenance and expansion of existing fuel breaks. Clean-up of lead contamination in shooting area.

d. Motorized Vehicle Use: What level of motorized vehicle use is compatible with the planning area's natural and cultural resources? What controls are necessary to curb motorized vehicle use beyond designated routes within the planning area? How could the access to the private in-holding be accommodated if the parcel is not acquired by BLM?

Potential Solutions: Further limit designated routes; better motorized vehicle control through fencing, barriers, and signing; limitations or closure to motorized vehicles within the planning area; law enforcement vigilance; careful placement of cleared corridors for fire prevention and other uses.

e. Accelerated Soil Erosion: Certain zones of the planning area are experiencing heavy erosion (> 1 surface acre/year) primarily due to vehicular use. How can such use be curtailed and what can be done to rehabilitate damaged areas?

Potential solutions: Further restrictions on vehicular use within the area through road or area closure; barriers; fencing; signing; and ranger patrol. Scarification, mulching and planting of native vegetation in damaged areas. Construction of water bars on certain roads; road and area graveling and maintenance. Rehabilitate modern mining trenches.

f. Riparian Habitat Condition: Preliminary field surveys and examination of aerial photographs since 1962 show no major degradation of riparian condition other than the construction of a small dam, reservoir and road by the National Guard during the 1960s. No activities are proposed through this planning effort that is thought to degrade riparian vegetation. Consideration was given to rehabilitating the dam location, but new growth of riparian vegetation since it was breached seems to preclude any action. Should removal of sediments accumulated behind the dam prove to be a problem they can be easily removed. Invasive species situated in a few riparian locations are generally localized and subject to removal as part of BLM's general weed eradication program. Other considerations such as sediment contribution and hazardous materials input that might affect downstream fisheries are discussed separately. While Olney Creek may have run year-round during historic and prehistoric times, growth of vegetation on the surrounding hillsides resulting from fire suppression and perhaps the effects of historic mining (e.g., streambed alterations, ditching, hillside sluicing) have reduced runoff.

There are questions regarding the state of riparian vegetation along Olney Creek branches within the planning area. Has riparian damage, if present, harmed fisheries? Can riparian degradation, if at hand, be reasonably and cost-effectively improved? Have past erosion and mining limited the government's ability to rehabilitate the stream's riparian growth, if, in fact, it is in need of rehabilitation?

Potential Solutions: Replanting of stream banks. Adopt a watershed program for local schools or groups. Eliminate erosion. Rehabilitate the old National Guard reservoir/dam. Let natural processes take their course. Selectively remove introduced blackberries, *Arundo* and other noxious weeds. Install a culvert across Olney Creek water crossing.

Monitor for fish use in cooperation with California Department of Fish and Game or the Western Shasta Resource Conservation District or others and tie work to downstream efforts.

g. Boundary Modification: Are the current public land boundaries desirable in terms of fiscally responsible management and resource protection? An irregular block of private land exists within the planning area. The nearby Straight Arrow Bowhunters, Inc has expressed an interest in purchasing adjoining land on the west side of Swasey Drive. BLM administered land in Section 6 and the N ½ of the N ½ of Section 7 scheduled for disposal hold resource values that are comparable and compatible with the larger planning area. Should these lands be retained rather than earmarked for disposal as conveyed in the RMP?

Potential Solutions: Dispose of portions of the planning area to Straight Arrow Bowhunters, Inc. to provide for use overflows (through sale, exchange or other means). Dispose of public lands to private in-holder to provide a manageable boundary in a similar manner. Alternatively, purchase private in-holding from a willing seller or maintain status quo. Maintain land in public hands next to bow club to provide a manageable boundary (Swasey Drive) and a buffer to cultural resources and general recreation use. Provide private/public land postings.

h. Recreation Trails: What trail development is desired for this planning area? Public interest has been expressed in one or more non motorized recreation trails between Swasey Drive and Mule Mountain Road/Whiskeytown, part of a greater non-motorized recreation trail system in the west Redding/Whiskeytown-Shasta-Trinity National Recreation Area. A connecting trail is presently being completed west of the Swasey planning area and the City of Redding is working on a trail connection between Swasey Drive and Mary Lake using trails of the Westside Trail System.

Potential Solutions: Several possible east-west alignments on the south and north sides of the planning area have been proposed and trail construction on one such trail is in progress (Figure 2). Conflicts with other recreational uses would have to be resolved, as between firearm use and horseback riding. Trail use could be integrated with cultural resource interpretation.

i. Minerals Management and Minerals Withdrawal: While mining has been an important element of past land use in the area, there has been little interest expressed in mining within the area in the last 15 years or so. While the area is open to mining entry, a plan of operation must proceed through a detailed review and environmental analysis before any non casual use operation can proceed.

Potential Solutions: Controlled, localized mining can be compatible with environmental protection and public use. ACEC specific mitigation measures can be imposed.

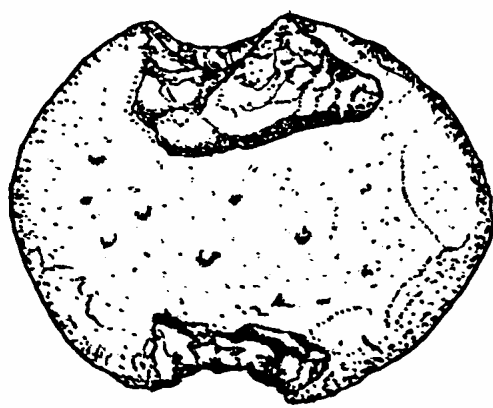
j. Special Status Species: Searches of BLM Redding Field Office wildlife and botanical records, the California Natural Diversity Data Base historic records, field botanical surveys, and GIS data analysis reveal no federally threatened and endangered resources, Northwest Forest Plan Survey and Manage Species, nor BLM Sensitive Species. However, Survey and Manage terrestrial mollusks, and the foothill yellow-legged frog (BLM Sensitive Species) may be found in the area and could conflict with other uses.

Potential Solutions: Project-related surveys prior to implementation to protect any special status species that might be present; 100 foot stream corridor buffer except at current developed crossings.

k. Fisheries: Near the Sacramento River, Olney Creek is an important fish habitat. It is an ephemeral, upper-reach location where it flows through the Swasey Drive planning area. During the summer it heats up and is affected by historic mining disturbances and the remains of several small dams below the planning area. Fish are limited, but not totally curtailed from reaching this location. California Department of Fish and Game personnel do not consider upper Olney Creek to be important fish habitat, but there may be federally protected salmonid species present during part of the year and the public has expressed a concern with protecting upper drainage fish.

Potential Solutions: (see **j** above).

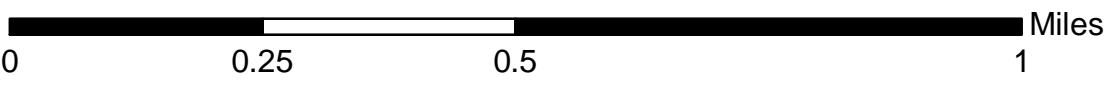
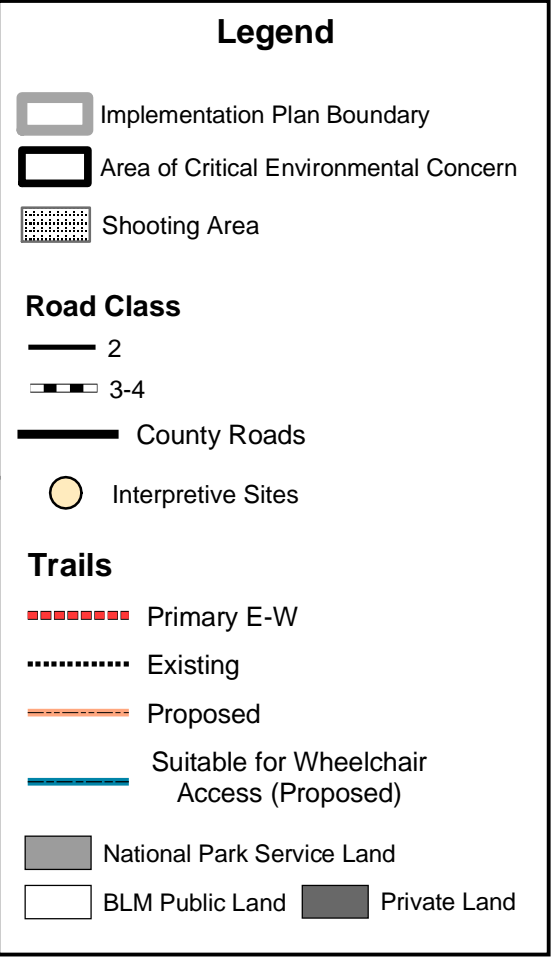
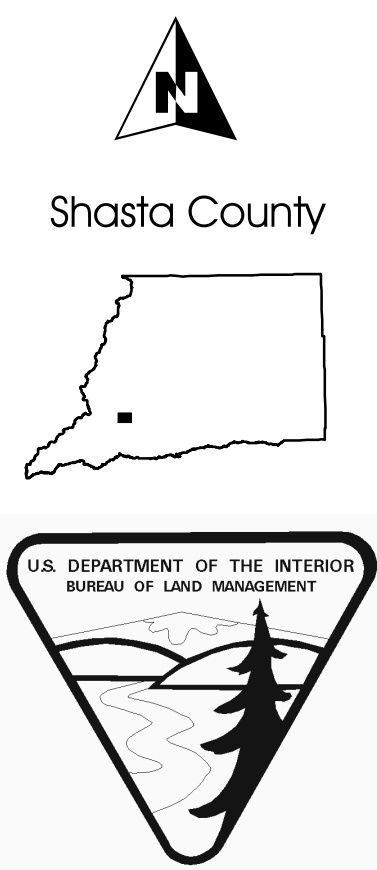
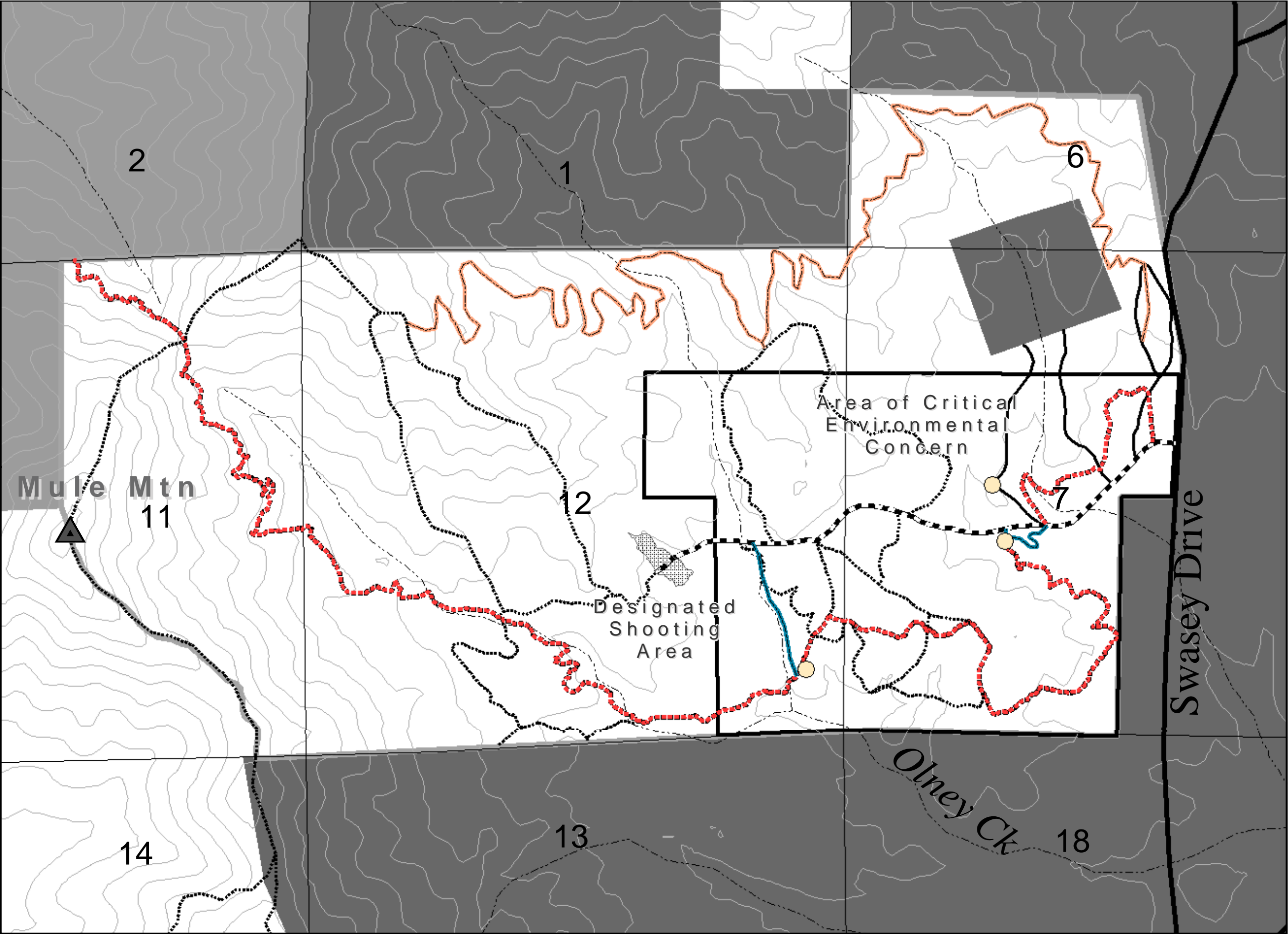
4. Issues Considered but not Further Analyzed: Wilderness values, wild and scenic river values, terrestrial habitat, wildlife species, hazardous materials away from the gun range, livestock operations, and certain timber harvest practices are not considered significant issues relevant to this planning effort.



Stone Net Weight (Middle Mule Pond)

PROPOSED AND EXISTING TRAILS
SWASEY DRIVE PLANNING AREA

Figure 2



CHAPTER 2 -- PROPOSED MANAGEMENT PLAN AND ALTERNATIVES

Based upon extensive staff review and public input a number of alternatives for the planning area can be presented for further evaluation. These alternatives represent the full range of possibilities offered by the various discussants and reviewers of the scoping document and are keyed to the major planning issues identified in this and previous planning undertakings (archaeological site protection and interpretation, safety, firearm uses, multiple recreation uses of a passive and active nature, and ecosystem protection and enhancement).

A. Management Activities Common to Each Alternative

There are a number of land use consistencies present with respect to all alternatives based on agreement by all parties and/or requirements by law, regulation and policy. In this regard there are ongoing BLM activities that will continue for the above reasons regardless of alternative considered including those listed below with discussion.

Action 1: Archaeological Site Protection and Interpretation: Archaeological sites will continue to be monitored by BLM personnel and stewards for their protection and stabilization, and appropriate actions will be taken at such sites to maintain their integrity. Protective fences or barriers as existing or needed will be constructed and repaired (see individual action plans). Select sites will be interpreted and research by qualified personnel and institutions will be encouraged. Coordination with the Wintu will continue with regard to all aspects of prehistoric site management, including an ongoing site stewardship program. All surface disturbing activities will be subject to compliance with Section 106 of the National Historic Preservation Act as codified in 36 CFR 800, the American Indian Religious Freedom Act of 1978, and the Native American Graves Protection and Repatriation Act.

Action 2: Law Enforcement Patrol and Assistance: In addition to visitor services' patrol presence, BLM law enforcement rounds will be made to the planning area to the extent the need and resources permit. As a guideline, a minimum of one patrol visit per week, predominately on weekends and holidays, will be conducted. BLM law enforcement officers will issue citations for violations of all appropriate laws. Other BLM personnel and archaeological site stewards will also keep an eye out for illegal activities and inform law enforcement personnel as soon as feasible of such activities.

Action 3: Protection of Water/Soil Quality: Any human-caused surface disturbances will be monitored to minimize impacts to soil and water quality. Water crossings on designated or administrative vehicle routes will have a culvert of appropriate size or a turf-supported block low water crossing to prevent stream bank erosion. Principal currently eroded areas will be stabilized as discussed below with regard to specific actions. Trails will be maintained to minimize erosion. Rolling and drain dips, water bars, and out sloping will be included in the design of any new trails (provided there is no damage to the

integrity of historic features such as the Clear Creek Ditch) and on existing trails and roads where needed. Modern mining trenches will be backfilled using a backhoe and/or by hand.

Action 4: Public Health and Safety: Efforts will continue to maximize the safety of both visitors to the public land and adjoining private land owners. This will include judicious signing and ranger/special agent patrol and enforcement of law and regulation, periodic review of allowable activities and management direction, directed visitor activities through management facility development and land use as discussed in the actions section below, and encouragement of visitor safety through various educational channels including brochures, web-sites, public outreach, and other means.

Action 5: Protection of Wildlife Habitat: No surface disturbances will be authorized by BLM within any key habitat area (e.g., riparian zone, seep, oak grassland area). A trail may pass through or close to such habitat if design restrictions limit access to the crossing itself. If especially sensitive habitats are later identified, these can be fenced for avoidance to prevent intrusion and habitat damage. Fisheries improvement will be coordinated with California Department of Fish and Game and the Western Shasta Resource Conservation District and could include riparian vegetation improvement and other stream-course related actions as determined appropriate by these agencies in cooperation with BLM. Ground-disturbing projects will be kept 100' away from Olney Creek unless related to wildlife habitat improvement. Other projects will need to be assessed in terms of protected species and effects prior to implementation following Endangered Species Act and BLM regulations.

Action 6: Semi-primitive Recreation Use: Semi-primitive recreation will continue and be encouraged provided such exercises do not conflict with resource protection or eventual prescription in the selected alternative. Such uses include primitive camping by permit only, birding, sightseeing, hiking, horseback riding, recreational mineral collecting, and driving on designated routes.

Certain recreational activities are not compatible with protection of the existing cultural resources and maintenance of the semi-primitive nature of the area and its surroundings. An example of incompatible uses is large group concerts with amplified music of the type known as "rave parties." Recreation such as paint ball battles or contests also is not the type that is compatible with the management goals for the area.

Action 7: Environmental Education: Formal and informal environmental education, including adopt a watershed, adopt a site, school outings, interpretive field trips, etc. will be encouraged through various informational outlets.

Action 8: Commercial Mining: All non casual use type mining and mineral exploration will be conducted in accordance with the 43 CFR 3809 Surface Management regulations and any applicable State and local laws. All non casual use type operations within the ACEC will require an approved Plan of Operations and a reclamation bond. In addition, as per Federal Register, Vol. 66, No. 210, p. 54838, October 30, 2001, the

following “protective condition to prevent irreparable damages” will be established within the ACEC:

No mining or mineral exploration activities (or associated actions) may occur within the Swasey Drive ACEC that would irreparably damage any important cultural or historic resources or their ambient setting which has been determined as significant by BLM.

Prospectors and miners wishing to camp up to 14 days per 90 day period must first obtain a camping permit from the BLM. Miners and prospectors wishing to camp longer than 14 days must first obtain an occupancy concurrence as per 43 CFR 3715.

Action 9: Existing Utility/Transportation Rights-of-Way: Existing utility-based rights-of-way along Swasey Drive will continue under a permit. New facilities or road development/enhancement along this transportation/utility corridor will be allowable subject to environmental review procedures with placement as close to the existing pavement as possible and avoiding all significant archaeological sites.

Action 10: Protection-Information Facility Maintenance/Signing and Visitor Information: Existing and proposed signs, fences, kiosks, access roads, culverts, etc. will be maintained and, as appropriate, enhanced or augmented in keeping with the primary management direction of this management area. BLM boundaries will be signed. Informational brochures and signs, trail head signs, and trail maps will be developed to provide information on important items such as:

1. User etiquette, regulations and requirements;
2. Health/safety and first aid tips;
3. Ambulance/hospital locations;
4. Fire reporting procedures;
5. Law enforcement capabilities/contacts;
6. Bureau of Land Management office locality;
7. Hospital and community hospitality locations;
8. Interpretive information about the area’s history, prehistory, Indian culture and natural resources

Action 11: Prevent Private Land Trespass: Those trails, roads, or ways providing unwanted access onto adjoining private lands will be closed, signed, and barricaded to prevent trespass. Trails will be designed to prevent motorized vehicle use and discourage people from intruding onto adjoining private land by use of a combination of actions listed above.

Action 12: Fire Protection/Prevention and Vegetation Manipulation: BLM will continue to explore methods to safely prevent wildland fire. These include construction of shaded fuel breaks, low-to-moderate intensity prescribed burns, public education, signing, campfire restrictions during dry seasons, regulation of mechanized equipment such as spark arresters, cooperative fire suppression with the California Department of Forestry and Fire

Prevention (CDF), and non mechanized fire suppression in the ACEC. CDF will be provided a map of the non mechanized fire suppression area for distribution to their responsible fire units. Fuel breaks require periodic treatments (every 4-10 years) to maintain their effectiveness including re-cutting the vegetation with hand mechanized equipment such as chainsaws or weed cutters, prescribed fire, biological methods such as goats, and/or direct herbicide application. Goals of prescribed fires for this area are to reduce the threat of catastrophic wildland fires to existing resources on BLM land and adjacent urban interface values. Due to close proximity to this urban fringe, prescribed fire projects would be limited to low or moderate heat intensity operations conducted only out of fire season when fire danger is low. Adjoining landowners will be notified in advance of such projects. There will be a press release one week prior to the action. All locations within the planning area are considered for such practices.

Action 13: Removal of Noxious Weeds and Plants: Noxious weeds and plants will be removed on a case by case basis with initial attention paid to *Arundo donax* and Himalayan blackberry (*Rubus discolor*) patches following the environmental assessment for their removal listed earlier in the document

Action 14: Trash Removal/Cleanup: Trash will be cleaned from the planning area and dead fall will be removed from facilities, trails and roads.

Action 15: Road and Trail Maintenance: Designated roads will be maintained on an as-needed or periodic basis. The primary east-west road will be kept to a Class 3-4 level (see Appendix 2 for standards) unless unauthorized uses reach an unmanageable level. Such a level is measured by evidence of 15 unauthorized vehicle transgressions off road in any one year or any impacting transgression (over five cubic yards of damage) to a prehistoric site. Subsequently, the road will be closed to general motorized vehicle entry following the plan amendment process. Then the road will be maintained for administrative, special permit and public non motorized uses at a Class 2 level (see Appendix 2). Primary recreation trails will be maintained.

Action 16: Administration: Solicitation of volunteer assistance and funding for management, research and education will be sought on a yearly basis or as needed. Projected yearly operation and maintenance funding requirements as well as finances for other needs such as archaeological site protection and research are shown in the Cost and Labor Estimates and Project Implementation Phasing Table at the end of this document.

Action 17: Land Tenure Decisions (except under Existing Management situation): The private in-holding will be acquired at fair market value should the owner be willing to sell or exchange parcel. Public lands within Section 6 and the N ½ of the N ½ of Section 7 will not be sold or exchanged as discussed in the 1993 RMP due to resource values compatible with the remainder of the planning area.

B. Existing Situation, Proposed Action and Alternatives

Existing Management Situation

This alternative provides for a continuation of management actions and uses existing at the time of the formulation of this plan (2003) including those listed above plus (1) the informal service of a shooting area constructed by the National Guard in the 1960s, (2) placement of bee hives under a permit at select areas accessible by designated road, and (3) motorized vehicle use on current designated routes. BLM will continue to consider disposal of public lands in sections 6 and 7 and not seek acquisition of the private in-holding. Various group activities and land-use actions will need to be considered on a case by case basis consistent with the protection and interpretation of cultural resources within the ACEC and environmental review (see Figure 1). Continuation of the existing management situation is considered the “no action” alternative for purposes of the National Environmental Protection Act.

Rationale for non Selection: This alternative as a whole is not considered since there are current conflicts between uses that occur in the area. Implementation of this alternative would continue reactive, inefficient resource management and would not take advantage of beneficial resource management opportunities available within the planning area. This alternative does not present a concentrated approach to land management. It would eliminate contributions from many individuals and their ideas that have been focused on the area and its surroundings.

ALTERNATIVE 1: (Proposed Action) Resource Protection Emphasis and Qualified Recreation Uses

The area will be closed to motorized vehicle use after nightfall. This will be regulated based on signing and law enforcement actions. Vandalism, shooting, littering and drug use have been problems, more so during nighttime hours when law enforcement presence is less likely. The night time activity deters lawful public use, damages natural and cultural resources, and creates a public nuisance. BLM can reduce this type of unlawful activity and enhance the setting for valid recreation use by requiring a permit for night time activities related to motor vehicle use/access. The planning area will be open to motorized vehicle access from one hour before sunrise until one hour after sunset. After those hours, visitors (with the exception of those through disabilities confined to motorized wheelchairs) planning on using motor vehicles for access to the planning area must obtain written authorization from a BLM authorized officer to use motorized vehicles. Written authorization will be in the form of a Special Recreation Use Permit or equivalent instrument as determined by the BLM authorized officer. Law enforcement personnel and other public servants or their agents specifically authorized by the BLM are exempt from this closure.

Fencing/boulder alignments and gating will be built at the principal entryway to channel uses and to afford BLM the opportunity to close the area physically to motorized vehicle use should public safety become threatened and/or impacts to natural and cultural resources are judged to be unacceptable by staff specialists or consultants (see Figure 3). The threshold for damage to soils or other resources is over 15 off road vehicle intrusions per year away from designated routes, noticeable damage to archaeological sites or features, or more than 1000 square feet of soil disturbance per year.

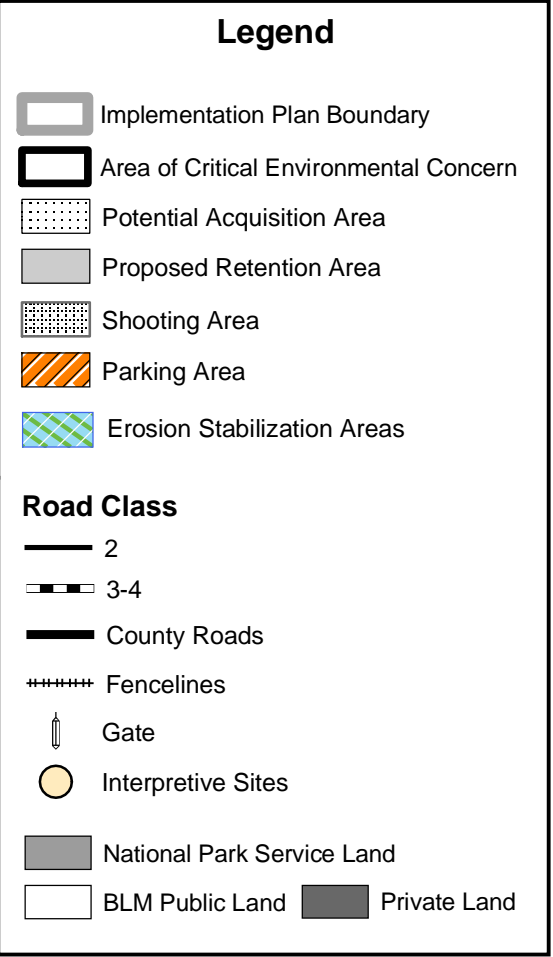
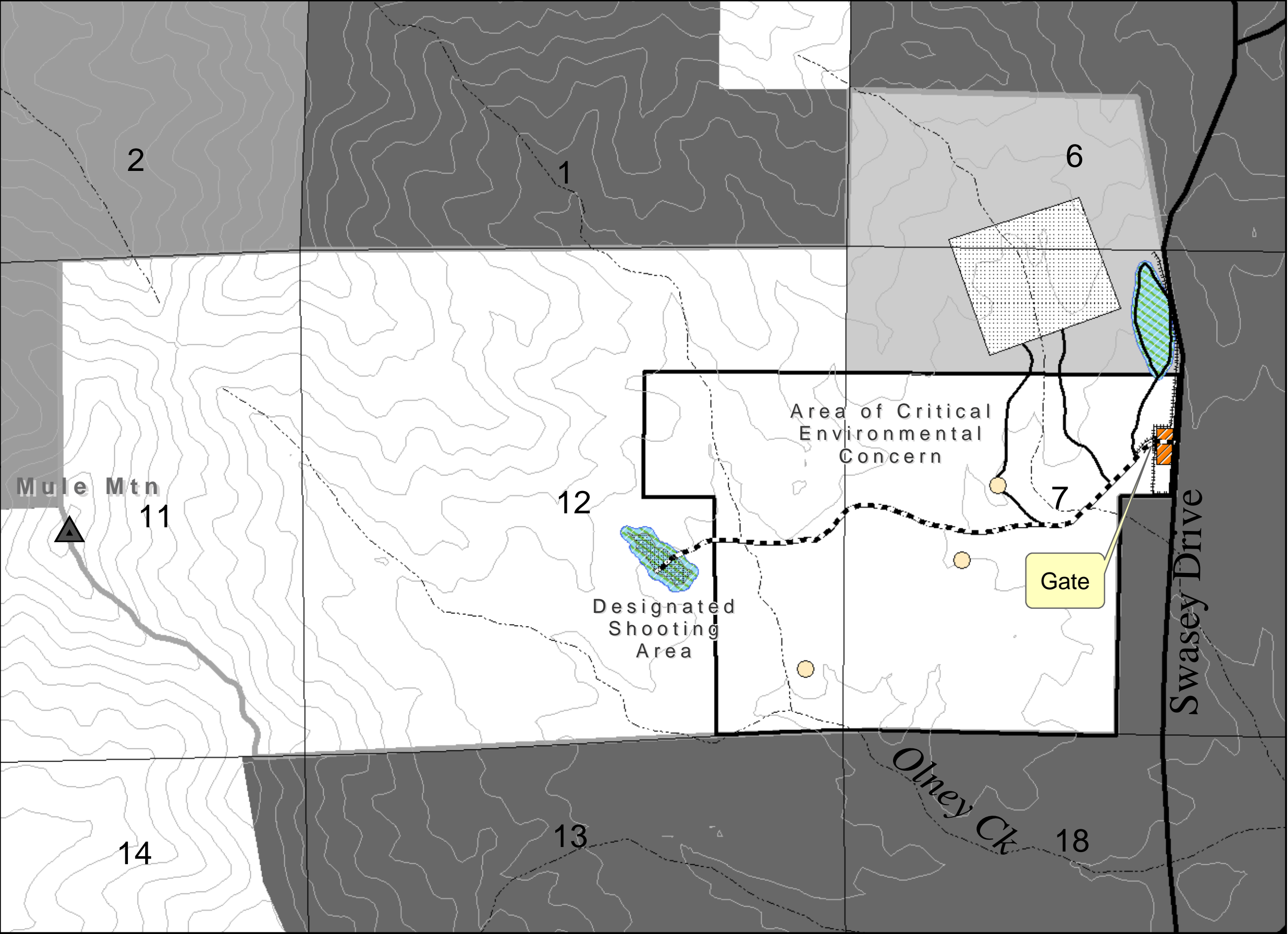
A fenced or boulder-lined parking lot will be constructed between this gate and the Swasey Drive entrance, large enough to accommodate horse trailer use and parking for about 20 vehicles. Non vehicle access will be accommodated should the gate be closed. Closing all routes to motorized vehicle use will be formalized through an approved plan amendment should management judge there to be increased safety and resource concerns as noted above. Daytime vehicular access, if the area is closed to motorized vehicular use 24 hours a day, will be allowable on 1993 RMP designated roads through a special permit for approved activities.

Portions of Section 6 and 7 earmarked in the 1993 RMP for disposal will not be sold or exchanged due to resource protection concerns and variable public use demands. The private in-holding will be acquired provided the seller is willing and it meets BLM's fair market value and hazard-free criteria.

The existing gun range will be opened for shooting during the day (sunrise to sunset) except on Sunday mornings (sunrise to noon), Thanksgiving and Christmas. Development will be limited to bank enhancement for safe backdrop shooting and signing to prevent shooting toward the south and east. A parking area may be established through boulder placement or the like within the next two years with signing to better direct shooting activities. Only portable gongs, paper targets, and biodegradable clay pigeons will be allowed. This range will be **closed to shooting after a two year period following plan completion**. The National Guard will be solicited for rehabilitation assistance. Timing of the closing will be partially dependent on the development of shooting locations elsewhere in the Redding vicinity. The shooting area may be closed prior to the two-year period should safety concerns become more apparent (i.e., public complaints and verifiable incidents) and/or resource damage and trash dumping increases. Subsequently, the shooting area will be open to variable recreation activities with the existing road through the area maintained. The subsequent developments are expected to occur within approximately two years following shooting area closure. The shooting area will be reclaimed after closure through lead removal, scarification, re-contouring to a natural setting, mulching, and planting of native species.

PROPOSED ACTION
SWASEY DRIVE PLANNING AREA

Figure3



The principal east-west open road from Swasey Drive to the current shooting area will be maintained to a Class 3/4 standard on a yearly basis with other designated routes minimally maintained (Class 2) on a periodic basis. Other roads and trails will be blocked from motorized vehicle use and signed as closed to such use. Signing and barriers/fencing will be placed to prevent off-road vehicular incursions into the planning area from passable locations such as off the road bank along Swasey Drive, from shaded fuel breaks and old roads to the west and north by Mule Mountain, and from locations within Middle Creek Estates to the south.

Non-designated roads and trails will be blocked and signed as closed to motorized vehicle use. Signing and barriers/fences will be placed to prevent off-road vehicular incursions into the planning area from passable locations such as off the road bank along Swasey Drive, from shaded fuel breaks and old roads to the west and north by Mule Mountain, and from locations within Middle Creek Estates to the south. Locations where illegal off-highway motorized vehicle use is occurring will be signed and access blocked through unobtrusive barriers.

Non motorized east-west trails will continue to be developed on the north and/or south sides of the planning area and as part of a ditch-grade loop trail, at least one such through route tied to the Westside Trail connecting Whiskeytown National Recreation Area and private lands to the east (should this system be developed). These trails will be suitable for access, walking, hunting, horseback riding and mountain bike riding. Select segments of these routes may be designed to accommodate disabled persons. Chosen segments of the Clear Creek Ditch will be restored (with minimal change to the ditch configuration) for non motorized trail use with at least one segment possibly developed for disability access. Other trails may be developed and older roads can serve as primitive trails (see Figure 2). Volunteer groups will be solicited to assist in maintenance and safety related assistance.

Public interpretation signing such as anodized single post and/or carsonite signs may be placed at the Boswell Mine, Tanya Site, and along the Clear Creek Ditch trail. Signs and/or brochures will discuss the resources, the area's culture history, and protection-related laws. These cultural locations will be kept clean of modern trash and hand brushed and maintained for visual integrity. Other interpretive signing regarding natural resource values will be erected at select locations along roads and trails. An informational and interpretive brochure will be developed for the area and made available at the entryway kiosk, the BLM office, and at other select locations, such as in mounted boxes at key resource locations.

Heritage-related tourism will be encouraged for select protected sites as listed above through advertisement, web-listings, and brochure/kiosk development. An access gate will be constructed at the Tanya Site. A non-obtrusive access trail to site features can be constructed should there be sufficient demands based on brochure distribution and needs expressed to the BLM (at least five responses within two years).

An informal camping area opposite the Straight Arrow Bowhunters, Inc. property along Swasey Drive will have erosion stabilized through scarification, mulching and planting of

native grasses and shrubs or capping with material such as gravel. Straight Arrow Bowhunters Inc. (or similar groups) through permit may use this area for major shoots and other activities provided soil disturbance can be minimized.

Hunting throughout the planning area will remain open. The planning area will be closed to any other non-hunting related discharge of firearms. The sole exception is the current shooting area which will be open to target shooting for a two year period following approval of the plan. After shooting area closure only hunting-related shooting will be allowed at this specific location.

Placement of bee hives at two approved locations will be allowed should an application be received. Such approval is on a first come first serve basis. If no permits are sought within a two-year period, then this use will no longer be permitted in the planning area.

Rationale for Selection: This alternative emphasizes management for cultural and natural resource protection and interpretation. It provides recreation opportunities and intensities that are compatible with resource protection and public safety. This alternative fits best within projected workforce levels and anticipated funding.

ALTERNATIVE 2 -- Public Recreation Alternative

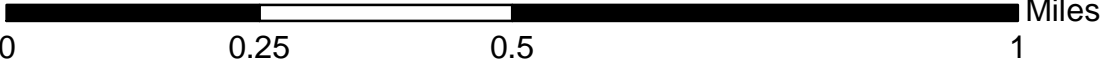
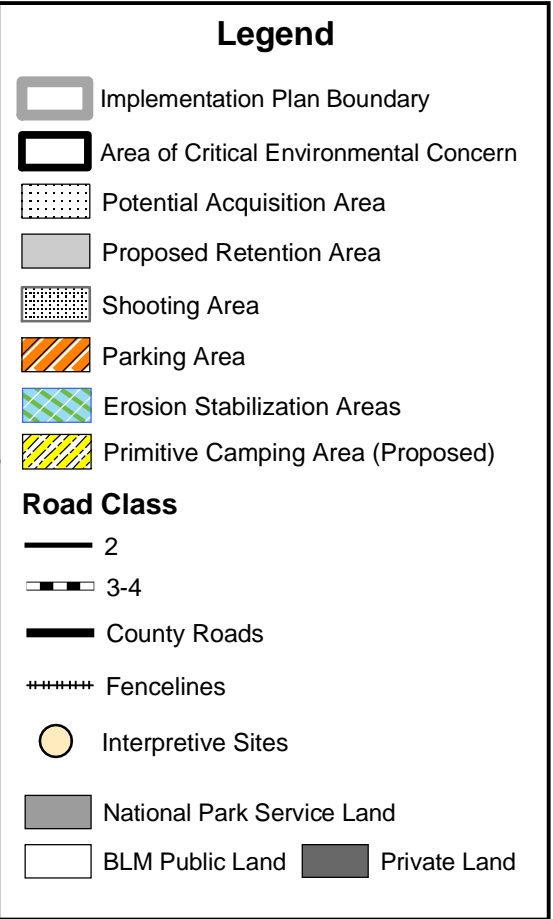
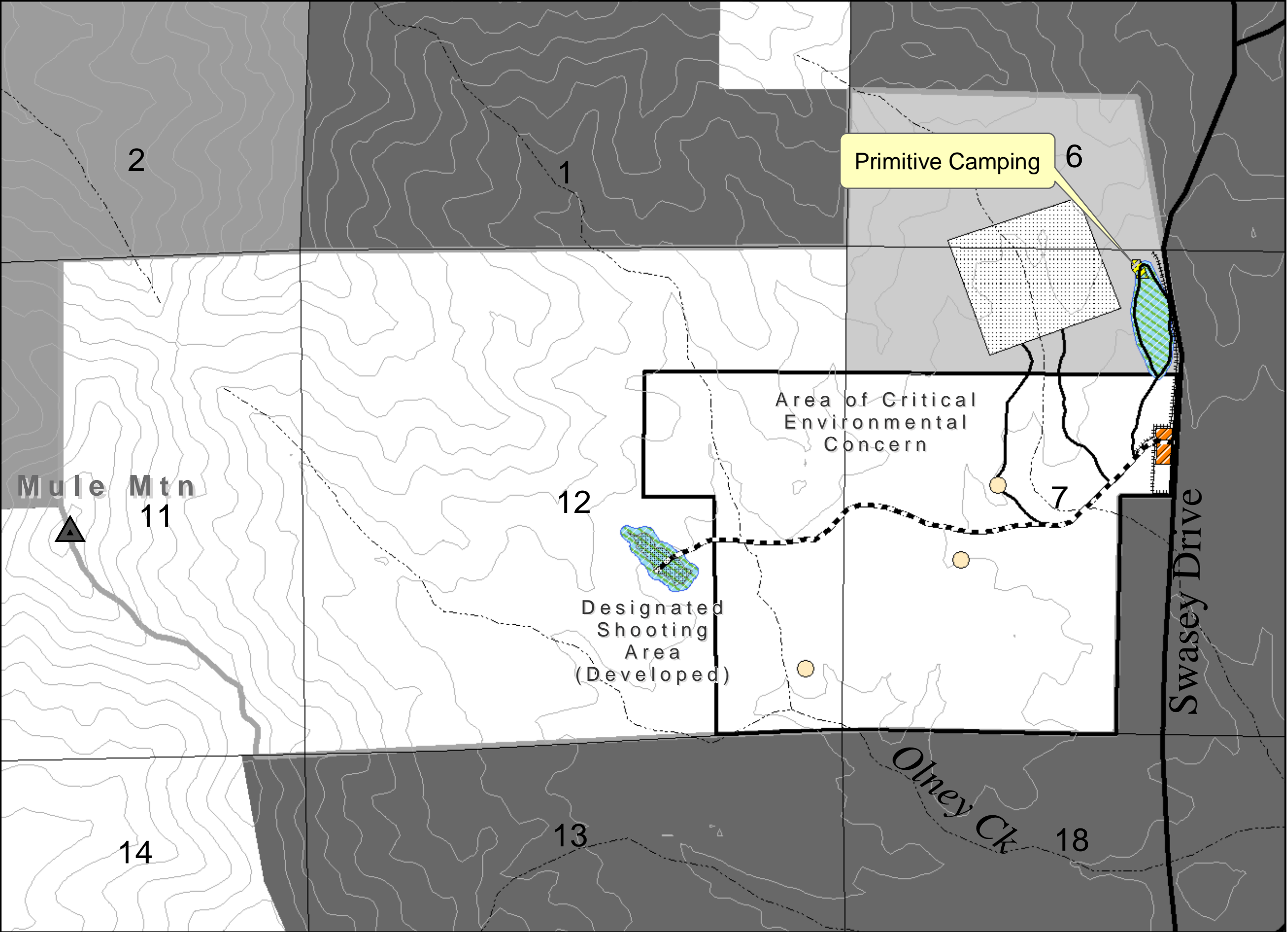
This alternative focuses on managing the area as an intensive public recreation area with a focus on site interpretation and multiple recreational uses while protecting the values of the ACEC (Figure 4).

The main east-west access road will be maintained to a Class 3-4 standard (see Appendix 2 for standards). Current designated routes for off-highway vehicle travel will be maintained to a Class 2 standard on at least a yearly basis. Other roads and trails will be blocked and signed as closed to motorized vehicle use. Signing and barriers/fences will be placed to prevent off-road vehicular incursions into the planning area from passable locations such as off the road bank along Swasey Drive, from shaded fuel breaks and old roads to the west and north by Mule Mountain, and from locations within Middle Creek Estates to the south and from the proposed primitive campground opposite the Straight Arrow Bowhunters, Inc. property.

The shooting area will be developed in cooperation with the National Rifle Association and/or gun club representatives to comply with safety concerns including the establishment of two or more bulldozer-trenched target areas with shooting benches facing northwest; a short high bank range pistol area facing north in the upper area of the current range and a skeet area facing southwest. Shooting will be prohibited to the south, southeast and east through signing and rehabilitation of shooting range environs in that direction. Only portable gongs, paper targets and biodegradable skeet are allowed. Toilet and trash receptacle facilities will be provided. There will be a nighttime closure of the shooting area. Locations of the shooting area will be shown on recreational maps and signs. Field personnel will be instructed to direct visitors to the recommended area.

ALTERNATIVE 2
SWASEY DRIVE PLANNING AREA

Figure 4



Non motorized east-west trails may continue to be developed and maintained on public land on the north and/or south sides of the planning area (with landform safety/noise buffers from the shooting area) and as part of, and/or independent of a ditch-grade loop trail, depending on final alignments. At least one of these trails will form part of the Westside Trail system connecting Whiskeytown National Recreation Area and trail segments to the east on private land. These trails, and other old roads available for primitive travel, will be signed and maintained on a yearly basis or as needed. Trails will be suitable for walking, running, and horseback and mountain bike riding. One or more segments of these trails may be suitable for disabled person use. Volunteer groups will be solicited to assist in maintenance and safety issues.

Public interpretation signing may be placed at the Boswell Mine, Tanya Site, and along the Clear Creek Ditch trail. The Boswell Mine complex will be selectively cleared of vegetation and all modern trash for visibility and interpretation. A primitive group campground will be established opposite the Bow Range along Swasey Drive. Hunting throughout the area will remain open and non hunting recreational shooting will be prohibited away from the shooting area. Development of bow and arrow target use opposite the Bow Range during major Straight Arrow Bowhunters, Inc. events will be allowable provided surface disturbance can be minimized.

Placement of bee hives under a permit will continue at select locations away from the shooting area accessible by designated road provided the demand continues. Should two years pass without permit application such use will be terminated.

The Section 6-7 land disposal will not occur due to resource value concerns as previously discussed under the proposed plan. If a willing seller is found, acquire the private in-holding through purchase or exchange following the plan amendment process/approval.

Rationale for Non Selection: The alternative is not selected because of safety and liability concerns from the presence of a formal or semi-formal firearm shooting range and close proximity to housing; law enforcement and management demands beyond resource area wide capabilities under existing budget and work power constraints; and the potential for indirect impacts to cultural and natural resources from perceived heavy visitor use and overflow.

ALTERNATIVE 3 – Mixed Public Use and Resource Protection

This alternative is a mix of generally passive, dispersed recreation use, archaeological site protection, and interpretation of resources (Figure 5). The area will be closed to motorized entry (except motorized wheelchairs) with the exception of special permitted activities or approved rights-of-ways such as the one to the private parcel within the greater planning area. Official closure will need to follow BLM's plan amendment process. A gate and fencing and/or boulders at the main entryway will be placed to control access. The fence

and gate will be constructed to allow passage of horses, bikes, motorized wheelchairs, and people. The main road into the planning area will continue to be maintained at a Class 3-4 level for administrative and special use purposes (see Appendix 2 for road standards). A small parking lot will be built at the entryway suitable in size to accommodate horse trailer entry and exit and approximately 20 vehicles. This will also aid in eliminating illegal vehicular use on the adjoining hillside. Signing and barriers will be placed to prevent off-road vehicular incursions into the planning area from passable locations such as off the road bank along Swasey Drive, from shaded fuel breaks and old roads to the west and north by Mule Mountain, and from locations within Middle Creek Estates to the south.

The existing gun range will be opened for organized events or group shoots only under a permit with use prohibited after dark or 5:00 p.m., before 9:00 a.m., and not on Sundays, Thanksgiving, or Christmas. Only portable gongs, paper targets and biodegradable clay pigeons will be allowed. The entire area will be closed to motorized vehicle use during nighttime hours. The range will be modified to include bulldozed shooting trenches and banks as described in Alternative 2.

Non motorized east-west trails will be developed and maintained on the south and possibly the north sides of the planning area and as part of a ditch-grade trail. One such trail will pass through the area from east to west as part of the Westside Trail system connecting Whiskeytown National Recreation Area and private lands to the east. These trails will be suitable for walking, horseback riding and mountain bike riding. Select segment(s) of these trails may be suitable for disabled person use. Volunteer groups will be solicited to assist in maintenance and safety issues.

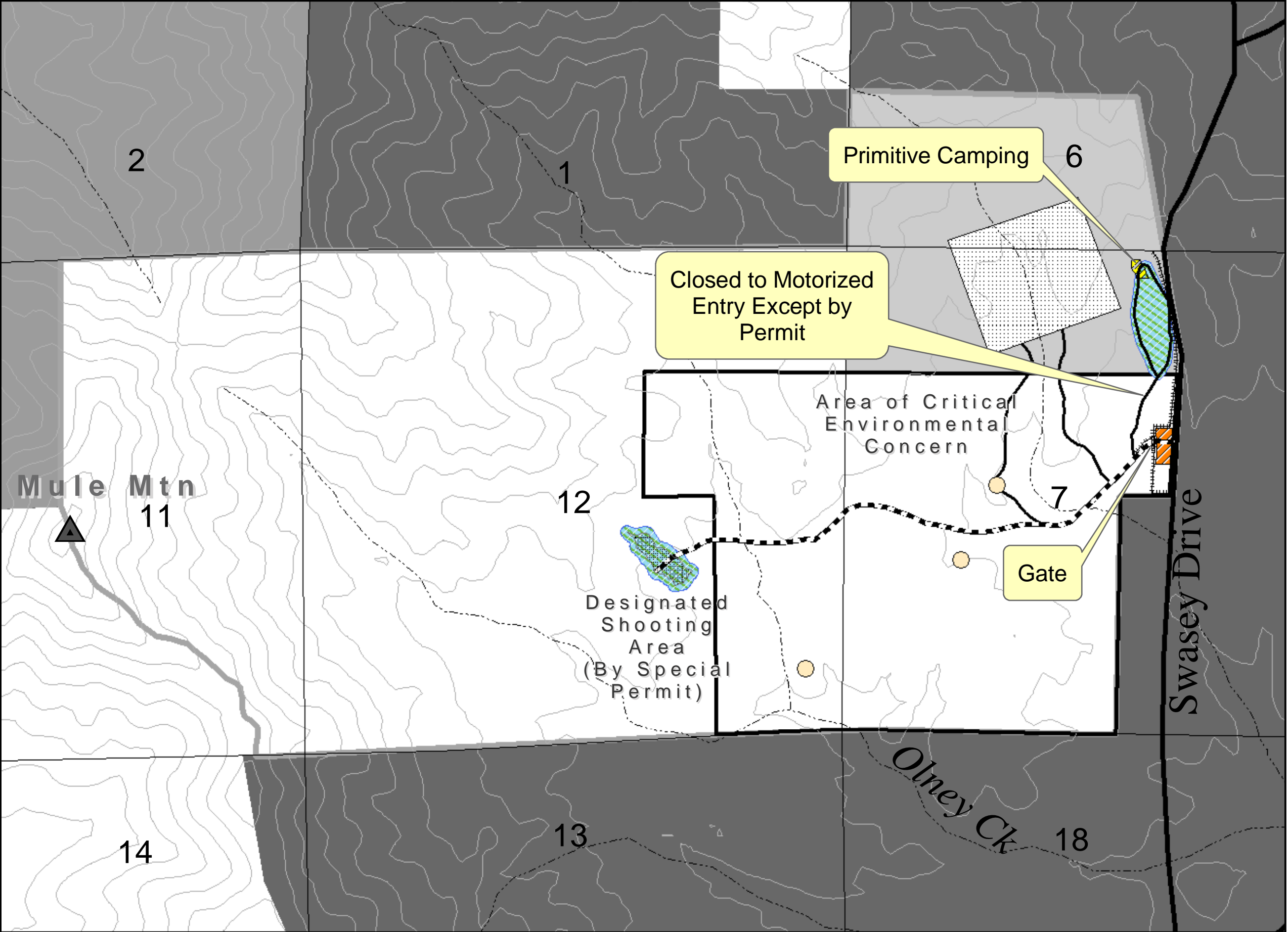
Public interpretation signing may be placed at the Boswell Mine, Tanya Site, and along the Clear Creek Ditch. The Boswell Mine area will be cleaned of modern trash and selectively cleared of vegetation for interpretation purposes. Small segments of the Clear Creek Ditch will be cleared of vegetation and restored for non motorized access (except motorized wheelchair-like vehicles) with at least one short segment handicap accessible. A primitive group campground may be established opposite the Straight Arrow Bowhunters, Inc. property along Swasey Drive. Hunting throughout the planning area will remain open and non hunting recreational shooting will be prohibited away from the shooting area.

Placement of bee hives at select, designated road accessible locations away from the shooting area will be allowed (two locations maximum) provided they do not present a public nuisance to recreation-oriented visitors.

Rationale for Non Selection: This alternative is not considered optimal because the reality of management and law enforcement limitations caused by current and expected funding and other competing management activities and work priorities for staffing. It also places heavy restrictions on public use that under current land-use expectations may be excessive. Human safety will remain an issue even with the shooting range limitations and closure of the area to motorized vehicles will preclude or limit some legitimate activities.

ALTERNATIVE 3
SWASEY DRIVE PLANNING AREA

Figure 5



Legend

- Implementation Plan Boundary
- Area of Critical Environmental Concern
- Potential Acquisition Area
- Proposed Retention Area
- Shooting Area
- Parking Area
- Erosion Stabilization Areas
- Proposed Primitive Camping Area

Road Class

- 2
- 3-4
- County Roads
- Fencelines
- Gate
- Interpretive Sites

National Park Service Land
BLM Public Land
Private Land



CHAPTER 3--AFFECTED ENVIRONMENT

Historic Resources/Background: It is possible that Euroamerican visits to the study area began with the early 19th century trappers, although there is no local evidence for this. The influences of Pierson B. Reading's Mexican Land Grant activities, especially early livestock grazing in the vicinity, beginning about 1844 are possible. Reading's discovery in 1848 of gold on nearby Clear Creek precipitated rapid Anglo-American buildup in the foothills of western Shasta County with numerous "boom" towns developing including nearby Centerville and Middletown. Olney Creek itself was named after Nathan Olney, an Oregon miner who mined the creek with his Walla Walla Indians in 1848. Shasta emerged as the primary mining center locally, although numerous small mining operations, cabin locations, trails, and roads from this major mining period occur throughout western Shasta County. These miners displaced the Wintu living in the ore-bearing zones like at Swasey. The Wintu people themselves were severely decimated by disease, killing, and mistreatment.

Local gold mining activities began with simple placer mining actions by individuals and small groups of miners. The pick, shovel and pan were first employed and the Spanish *arrastra* was used to crush ore, one such device and associated cabin ruins being found in the planning area. With the knowledge that continued success in placer mining necessitated the efficient use of water, many miners joined in corporate ventures to divert water to mining operations through a system of dams, ditches, and flumes. Among the most important mining ditches constructed in Shasta County was the 40+ mile long Clear Creek Ditch. Built between 1853 and 1855, this National Register of Historic Places eligible ditch runs through the Swasey planning area. Such ditches served to provide year-round water to the mining operations.

By about 1860 lode mining in the area was conducted through corporate endeavors. The Boswell Mine in the study location is one such operation that continued through the Depression. The complex was owned by C.E. Boswell from the late 1800s into the 1900s. From 1893 to 1894 it was known as the Florida Mine, and operated as a quartz mine. The original claim measured 1500 feet by 600 feet and contained a 4-foot vein of gold-bearing quartz. Early improvements included two shafts and a 175' long tunnel. During the 1920s the Boswell Mine was known as the Florida Group, including 12 separate claims. The Big Gem, the most persistent gold producer of the group, was developed by shallow shafts. During the Depression developments included the construction of a 112-foot deep shaft, a 300-foot shaft, and a ten-stamp mill. Gold ore was processed here. The mine complex also included a cookhouse, boarding house for seasonal workers, family residence, and a machine shop. It was during the early 20th century that a number of individuals and families built small houses on their claims in the Swasey area, eventually leaving as World War II ensued and the economy changed with limitations on gold mining operations.

Overall, the planning area is dense in historic remains of both Chinese and Euroamerican origin, including various mining features such as tailings, ditch segments, dams, mined areas, cabin locations, scattered artifacts, roads, trails, stacked rock walls, an *arrastra*, a

millsite, claim markers, old stumps, fruit trees, etc. The 10 recorded historic sites in the planning area are listed in Appendix 1. Other unrecorded sites are known.

Native American Indian Resources/Background: Considerable ethnographic work has been conducted for northern California and the Redding region in general. However, the study area has had no direct ethnological research and conclusions regarding the local Wintu inhabitants as they lived at the time of Euroamerican contact must rely on these broader studies. It is known that the Wintu worked in the local mines during the Depression (personal communication from Ed Grant, Wintu elder ca. 1985 to the BLM archaeologist [EWR]) and that during the early 20th century Euroamericans and Native American Indians of various regional tribes who had trans-located to the local area lived within the planning area.

Elaine Sundahl, a researcher for Shasta College, has completed an ethnographic summary for the planning area as part of a BLM-sponsored project. The Shasta College Archaeology lab report of 1998 by Sundahl titled *West Redding Archaeology Project: Excavations at CA-SHA-1991, Shasta County, California* is liberally paraphrased for this background summation.

At the time of Euroamerican contact the Wintu occupied the study area ranging from Cottonwood Creek to Lamoine, and from Salt Creek to the upper Trinity River. Local names recorded in the 19th century for the Wintu included “Wylakers,” and “Wailakki.” Wintu is now the acceptable name. Early 20th century ethnographers divided the Wintu linguistically and culturally into eight geographic subareas. The *elpom* or Keswick subarea extended along the Sacramento River from the approximate location of Shasta Dam southward to Shasta. South of them was the *daunom* or Bald Hills Wintu. The *klabalpom* inhabited the general French Gulch area. Likely, considering the massive cultural disruptions brought by Euroamerican contact, such subareas are relatively recent. Sundahl, in the above reference, believes that prehistoric groups were organized on the basis of drainages. She notes that it is unclear whether the upper Olney Creek peoples belonged to groups living to the north, south or east, or were equally distinct from all other groups.

Social and political organization was focused on a principal village and secondary villages, a tribelet system. These allied residential sites were related to a loose territory, perhaps a portion of a watershed. Salmon and acorns were principal foods, especially for those living along the Sacramento River. Although an early observer in the region noted that the Wintu were indifferent hunters but good fishermen, based on occupants of riverine settings, regional variation on this dietary theme likely occurred. It is known that a diversity of plants and animals were consumed, probably dictated by local conditions and networks of interaction. These other foods include buckeye, hazel nuts, gray pine and sugar pine nuts, manzanita berries and many other kinds of bulbs, tubers, berries, seeds and leafy plants as well as rabbits, other small animals, insects (like grasshoppers), and fresh water mussels and gastropods. Many of these food sources, of course, exist or existed in the past in the study area.

The ethnographic record suggests the Wintu practiced a version of transhumance, seasonal movements highly related to the availability of food resources, between riverine villages and foothill locations, such as at Swasey. In this regard some of their technological devices, such as those used in hunting and fishing and food preparation, probably varied. The bow and arrow, quivers from otter or fisher, snares, nets, decoys, baskets, harpoon with bone toggle points, and fishing houses were present. Household implements included the hopper-mortar; cooking, storage and serving baskets; pestles of stone, hammer stones, various flaked stone tools, bone awls, and many other items.

Wintu oral history indicates these people were always here in the northern Sacramento Valley and surrounding hills. Linguistic studies (and archaeological evidence) suggest another scenario where the Wintu entered the area around 1200 to 1300 years ago. Both avenues of interpretation can be considered viable explanations for Wintu origins, a culture deeply rooted in mythology and oral history; in complex religious beliefs beyond the scope of this document.

Prehistoric Resources: The Swasey area has been a key location toward furthering public knowledge about the prehistoric peoples of northern California. This development has been rather recent. The first formal field work was by BLM archaeologists in 1981 when one of the large village sites was recorded. In 1987 California State University, Chico undertook archaeology field class testing of this partially looted prehistoric village with the intention of determining the site's complexity and integrity. This work resulted in a report on file with BLM. During the late 1980s, Chico State also inventoried selected lands in the area for cultural resources. This work included extensive archival research and also resulted in a report filed with BLM. Subsequent surveys of portions of this planning area have been conducted by BLM archaeologists with reports on file with the agency. The ACEC has been listed on the National Register of Historic Places. These important sites were generally spared destruction by early mining activities below the main ditch systems and thus form a suite of past activity/living locations now rare in the Redding region.

Beginning in 1994 the field archaeology program of the Shasta-Trinity-Tehama Joint Community College District (Shasta College) conducted archaeological studies of local prehistoric sites. The studies focused on two major villages and have resulted in several archaeology reports published by the college. These studies and others from nearby areas provide for a model of prehistoric lifeways for the region with indications of at least 4000 years of local occupation.

While human occupation in the general region may go back at least 12,000 years, such evidence as yet has not been forthcoming from the planning area. The earliest evidence relates to a "middle" period that dates about 5000 B.P. to 1500 B.P. Tool kits became more elaborate from earlier periods with various distinguishable artifacts, including dart points and slab milling tools. Occupation within the western margins of the Sacramento Valley intensified during this period.

During the ensuing late prehistoric period hopper mortars, pestles and the bow and arrow were introduced, a period hypothesized by some scientists as coinciding with the introduction of Wintu ancestors into the region. Wintu oral history has their people occupying the area since time immemorial. The settlement pattern for this period consisted of the placement of large villages and smaller residential sites along secondary streams of the Sacramento River. Economic pursuits relied heavily on acorn gathering, deer hunting and salmon fishing. Large and small circular house structures together were the pattern and one large prehistoric house was partially excavated at the planning area's Tanya Site. Local research has substantiated a link between historic Wintu and the area's late prehistoric inhabitants including the discovery of prehistoric human burials in at least two of the sites.

With its well-preserved remains of villages, hunting camps/stone tool workstations, butchering sites, and a milling station; the Swasey planning area's contributing cultural resources comprise all or most of the ethnographically described Wintu settlement system. The planning area includes a cluster of villages occurring within one drainage system—upper Olney Creek. This suite of prehistoric archaeological sites allows archaeologists the opportunity to examine economic, political, and social relationships among and within a native settlement system prior to the major Euroamerican incursion around 1848, as well as the opportunity to study the dynamics of a native settlement system over thousands of years.

The 20 recorded cultural resource properties in the planning area are listed in Appendix 1. Other unrecorded sites are known.

Geography, Geology and Soils: The rolling hills and low mountains in the planning area are moderately incised by numerous intermittent and seasonal drainages of the upper Olney Creek system, creating a varied topography ranging from nearly level terrain to steep (more than 50 percent gradient) slopes. Elevations in the planning area range from 880 feet to 2325 feet above sea level. Geologically, areas of Copley greenstone, Quaternary alluvium, and granitic outcrops of the Mule Mountain Stock underlay the planning area, which is part of the Klamath Mountain Province. Local soils are generally stony or rocky loam, sandy loam and sandy clay loam of the Auberry, Auburn, Diamond Springs, Goulding and Kanaka series. Higher slope soils are eroded.

Native Vegetation: The lower reaches of the study area are blue oak (*Quercus douglasii*) woodland with abundant grey pine (*Pinus sabiniana*) and poison oak (*Toxicodendron diversiloba*). As one heads west and up in elevation a manzanita (*Arctostaphylos viscida*)—Ceanothus chaparral community is reached with intermixed riparian (*Salix* sp., *Vitis californica*, *Rhamnus californica*) and grassland (*Avena* sp., *Bromus* sp., *Nassella pulchra*, etc.) habitats throughout both zones. At the highest elevations is a mixed, often dense zone of conifers (*Pinus ponderosa*, *Pinus attenuata*, *Calocedrus decurrens*), oaks (*Quercus wislizenii*, and *Quercus kelloggii*) and chaparral (*Arctostaphylos* sp., *Ceanothus* sp., *Heteromeles arbutifolia*, and *Aesculus californica*) species.

There are no known special status plant species in the study area based on extensive surveys on portions of the area and immediately surrounding public lands. The potential is considered low for occurrence due to survey information and lack of suitable habitat (e.g., elevation, rock and soil characteristics, moisture retention in soils, vernal pool presence, climatic conditions, etc.) and general location.

Weeds: In January 1999 an environmental assessment (RE-98-26) titled *Vegetation Management for Noxious Weed Control and Riparian Enhancement in Shasta, Tehama, Butte and Siskiyou Counties* was finalized and signed by the Redding Field Office manager. Vegetation management alternatives covered by this document include manual, mechanical, chemical, biological and fire-related. This document tiered to the BLM's California Vegetation Management FEIS from August 1988.

The EIS is a programmatic analysis, covering all BLM lands identified in the RMP to be retained in federal ownership. The BLM State Office requires a site specific environmental analysis to be completed for all actions. However, the programmatic environmental analysis covers all requirements of public notification, conformance with land use plans and various treatment alternatives. For chemical treatments, BLM must also submit a pesticide use proposal (PUP) to the BLM State Office before any chemical application.

The primary need for the environmental analysis is for the control of noxious exotic plants on the public lands that are displacing native plant species. For the Swasey planning area noxious exotic plants include yellow star thistle (*Centaurea solstitialis*), giant reed (*Arundo donax*), Chinese tree-of-heaven (*Ailanthus altissima*), Himalayan blackberry (*Rubus discolor*), and likely Scotch broom (*Cytisus scoparius*), Klamath weed (*Hypericum perforatum*), and Medusa-head (*Taeniantherum caput-medusae*).

Wildlife and Fisheries: The location hosts a variety of wildlife. Local fauna is typical of the foothills of the Sacramento Valley with deer, bear, foxes, coyotes, quail, turkey vultures, scrub jays, squirrels, rabbits, lizards, snakes, introduced turkeys, and other terrestrial wildlife moderately abundant. It is certain this upper reach of Olney Creek is sporadically used by salmonid fishes in its lower reaches, but apparently not in its upper levels. Fish and shellfish remains have been recovered from the adjoining prehistoric residential sites. At least two dams downstream, one on public and one on private lands, likely impede migratory fish. It is also probable that the elevation rise from the lower reaches of this stream impedes migration. Furthermore, oral history accounts (Charles Nachreiner through Ken Gifford, personal communication 2001) suggest that before heavy brush growth (early 20th century) Olney Creek in this vicinity flowed year round. Additionally, there have been other disturbances including the National Guard's construction within the parcel of a major road, shooting range and now breached dam across Olney Creek.

There has also been periodic placer mining in the stream that together or separately may have proved detrimental to aquatic species. While the lower reaches of Olney Creek within the Valley proper have habitat and perennial water used by aquatic species, including

federally protected salmonids and fresh water turtles, the Department of Fish and Game does not consider upper Olney Creek at present a viable fishery (poor to marginal at best), primarily due to the hot summer conditions (personal communication to BLM Fisheries Biologist Brandt Gutermuth by Department of Fish and Game Fishery Biologist Terry Healy 2001). Fish attracted to these upper reaches out migrate prior to low flow conditions or perish when the stream dries during the late spring-early summer. No known threatened or endangered animal species are present in the planning area. However, Survey and Manage species listed in the Northwest Forest Plan (perhaps terrestrial mollusks) and foothill yellow-legged frog (a BLM Sensitive Species) may be found in the area.

Minerals: Mineral deposits in this area consist of scattered, small, steeply dipping, low sulfide, gold-bearing quartz veins and the associated residual and alluvial surface placers. Past mining has consisted of underground and small-scale surface cut mines and prospects in the gold-bearing quartz veins and small scale surface placer mining of the gravel deposits. As in most other historic gold mining areas in northern California, mercury was used locally in the recovery of lode and placer gold.

BLM mining claim records indicate there has been 87 lode and 49 placer mining claims located on this land since 1979. Only one active claim exists today (January, 2003), the Vista Placer Claim located in T31N., R5W., SW 1/4 of Section 6. Absent a change in the current low price of gold, few new claims are expected in the near future (ca. next 10 years)

Existing Infrastructure: Fencing, generally barbed wire varieties, are scattered around the parcel marking private land boundaries or archaeological protection locations. The main road that runs east-west through the parcel between Swasey Drive, a paved road, and the primary shooting area, is an improved dirt road. BLM provides periodic (every two to three years) road maintenance on this track, usually involving a grader. There are five culverts that exist along this road, generally composed of metal casings placed by the National Guard. These are maintained as needed. A wooden informational kiosk is located near the parcel's main access road entrance just as one leaves Swasey Drive.

Existing Rights-of-Way – Authorizations: The existing realty-based authorizations within the planning area include a Pacific Gas and Electric Company power transmission line near the eastern edge, a cablevision line, also near the eastern edge along Swasey Drive, and an apiary permit.

Recreation: The major recreation activities occurring within the Swasey Drive planning area consist of target shooting, hunting, hiking, horseback riding, wildlife viewing, and off-highway vehicle (OHV) use. Other less frequent activities include: parking for commercial events related to recreation use, camping, ethnic ceremonies, mountain biking, dog training, and firearms training under special recreation use permit authorization. There are no accurate visitor use statistics but it is estimated that the planning area receives approximately 4000-5000 visitor days per year or more (one visitor day = one visit by one person for any time period during a single day.)

Special regulations for certain recreation activities have been implemented for camping, target shooting and OHV use. The OHV designation for the Swasey planning area is “limited to designated roads and trails.” This allows motorized vehicles to use only the main access road leading to the shooting area and three spurs that branch off the main access road. Two of the spurs access private property within the planning area. The third spur allows access to a camping and parking area along Swasey Drive (see Figure 3).

Target shooting is restricted to the old National Guard shooting range. Hunting is allowed in accordance with State game laws.

Camping is allowed but restricted to 14 days per calendar year.

Currently, there are no designated non-motorized trails such as hiking, equestrian and mountain bike trails. Numerous already informally linked abandoned or little-used trails occur throughout the planning area and several have recently (2002-2003) been cleared for informal use. Some of these routes could potentially be linked and a trail head established to access the City of Redding’s Westside Trail network and the Whiskeytown National Recreation Area non motorized trails’ system. Construction of one major trail has been initiated (2003). Non-motorized recreation trail use is growing in the region.

Visual Resource Management: Visual resource management prescriptions have not been applied to the Swasey planning area. It is the intention of this planning effort not to noticeably change the visual character of the planning area setting. More likely, the visual setting within the planning area will improve.

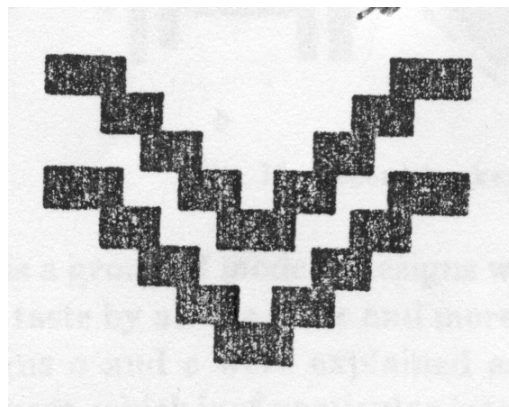
Hazardous Waste: Lead within the Shooting Area: Because of concerns for hazardous materials within the planning area, particularly those that might be associated with the area of concentrated shooting exercises and mining activities, sediment samples were obtained from select locations and submitted to Columbia Analytical Services of Redding for analysis of various metals and compounds (cations), particularly lead, mercury and arsenic (see Appendix 3). Five samples were obtained by BLM following guidance from Columbia Analytical Services and hazardous waste specialists with BLM. The samples were obtained in September 2001.

The five samples of soil/sediment were obtained within the study parcel from (1) upper Olney Creek above the shooting area (UTM 0543249e, 4489120n); (2) a small gully within the center of the principal shooting area (UTM 0543064e, 4488899n); (3) one of the principal banks of shooting (UTM 0543093e, 4488846n); (4) within a secondary drainage of Olney Creek several hundred feet below the principal shooting area (UTM 0543186e, 4488811n); and (5) from Olney Creek within approximately one-quarter mile of the main shooting area (UTM 0543623e, 4488415n). Utilizing State of California (CA Title 22) Total Threshold Limit Concentration (TTLC) values (see Appendix 3), the only value that exceeded State standards was lead within Sample 3, the target bank within the main shooting area. Immediately downstream within Sample 4 lead is elevated but below State

thresholds. This suggests there is a rather immediate drop-off in lead values (over ten fold) within the small secondary drainage leading from the main shooting area with negligible lead apparent in the sample even further downstream.

Fire and Fuels Management: Threats from wildland fire are increasing every year in the planning area due to continuing fire suppression in the area, increasing hazardous fuel buildup, and a growing wildland-urban interface. Fuels management is an important planning component with safety and a sound ecological setting the prime concerns.

Shaded fuel breaks have been constructed on predominant ridges and road corridors within the planning area and the immediate environs over the last 20 years. These projects were completed in cooperation with public and private adjacent landowners. Shaded fuel breaks are created to help break up the continuity of existing thick brush vegetation and provide strategic access points for fire suppression operations during wildland fires. Fuel breaks often help slow down or alter wildland fire spread and reduce impacts to existing vegetation, particularly the forest canopy within fuel break areas.



Wintu basket design

CHAPTER 4--ENVIRONMENTAL EFFECTS OF THE PROPOSED PLAN AND ALTERNATIVES

Continue Existing Management

Cultural Resources: Cultural resources will continue to be managed on a makeshift basis with a focus that could continue to create impacts and little proactive management. Cultural resources will not receive the management and public spotlight they deserve because of their significance with the potential for less attention and necessary protection and stewardship. At least one site per year is expected to experience some level of damage.

Firearms Use: A long-term focus on concentrated and dispersed firearm use has, and will continue to create safety problems and concerns and incompatibilities with other recreation uses, especially with regard to the firing range. There will continue to be at least 25 citable offenses related to gun use in the area each year and at least one stray bullet into the nearby residential complex based on previous complaints. At least 50 individuals each year will feel threatened by gunfire, either real or perceived due to shooting noise.

Human Health and Safety: Fire and Fuel Management practices will enhance watershed/soil protection, animal habitat, and public safety if executed appropriately through subsequent planning, public contact, multiple agency coordination, follow-up environmental analysis, and care. We expect to prevent widespread watershed and possible structure damage at a rate of approximately one incident per 5-10 years in all alternatives (Appendix 4).

Without clean-up of lead in the gun range there is an unknown level of likely lead contamination in Olney Creek (and its biotic system) and to visitors.

Motorized Vehicle Use/Accelerated Soil Erosion: Illegal OHV use will continue despite periodic law enforcement presence, signing and barricading. This has been a major cause of existing off-road surface damage at a rate of ca. 1 acre per year leading to unacceptable erosion.

Land Tenure Decisions: The RMP intention is for disposal of Public Land in Section 6 and the north 1/2 of the north 1/2 of Section 7. This would potentially lead to watershed and habitat degradation, infringement on the ACEC by developments through visual and auditory intrusions, illegal vehicle entry, limitations on non-motorized recreation trail development, and increased control costs. Disposal will also limit a light-use buffer to cultural resources, provide a loss of other primitive recreation opportunities, and possibly place undue limitations on federally approved small-scale mining opportunities.

Disposal will lessen the greenbelt corridor that now exists between urban sprawl to the north and south. Additionally, disposal will potentially lead to more safety concerns

because of BLM gun range related intrusions such as noise and errant bullets on new housing or other developments.

Without acquisition of the private in-holding there is the possibility that legal access concerns to and from this parcel will continue, especially with respect to motorized vehicles. Activities within the private parcel may increase sediment and toxic material flow into Olney Creek. There is a possibility of intrusions of public land visitors into the private holding creating trespass problems. Managing the in-holding boundaries with signing and fencing may be costly. The presence of an in-holding can restrict various management activities suited to a block of federal lands such as fire management, watershed protection through vegetation manipulation, and control of noxious weeds. Acquisition provides a consistent greenbelt corridor. Acquiring the parcel may prove costly. A plan amendment will need to be written and approved prior to acquisition.

Alternative 1: Proposed Action (Resource Protection Emphasis and Selected Recreation Uses)

This is the preferred alternative. It emphasizes protection of cultural and natural resources while providing compatible, generally passive recreation opportunities.

Cultural Resource Management: This alternative will provide important cultural resource site protection measures while encouraging select site interpretation and research. Impacts to cultural resources will be less than exists with current conditions (less than one incident per year).

Firearm use within a confined range will be phased out allowing users to find alternative locations away from the Swasey study area within a reasonable timeframe lessening the impacts on this form of recreation. Overall, hundreds of visitor days devoted to this activity will be curtailed each year.

Human Health and Safety will be enhanced through increased gun range controls and eventual closure of the gun range. Conflicts (safety, noise, insecurities, etc.) between home owners nearby and other recreationists and those using the range will decrease. Within the first year or two after closure there may be an increase in enforcement costs but fewer errant bullet incidents.

Fire and Fuels Management practices will enhance watershed/soil protection, animal habitat, and public safety if executed appropriately through subsequent planning, public contact, multiple agency coordination, follow-up environmental analysis, and care following the National Fire Plan and the 10-year Comprehensive Strategy (Appendix 4).

Motorized Vehicle Use will be curtailed in this alternative and this form of recreation activity diminished by hundreds of person days per year providing fewer potential impacts to archaeological sites, soils and watershed and confrontations with more passive

recreationists. Illegal nighttime activities will also be limited thereby easing management costs (hundred to thousands of dollars per year) for law enforcement, trash cleanup and resource damage repair.

Accelerated Soil Erosion (and watershed damage) will be lessened with this alternative since there will be less motorized vehicle use and OHV damage away from roads, probably in the realm of 10 or less cubic yards per year decrease in sedimentation.

Land Tenure Adjustments: Retention of public lands scheduled for disposal will prevent archery club expansion to the west. On the other hand, retention will allow more efficient management of the watershed, greenbelt, and various natural and cultural resources; prevent or lessen visual and auditory intrusions and trespass, and form a protective landscape buffer for archaeological sites and various recreationists, including trail enthusiasts.

Acquisition of the private in-holding, seller willing and funds/workforce commitments made available (following the RMP amendment requirement), will provide landscape management continuity of a major watershed, potentially lessen trespass and ingress/egress problems to the parcel, possibly facilitate sediment and toxic substance reduction in a branch of Olney Creek, and allow a broader application of recreation opportunities. Also, such acquisition may reduce visual and auditory intrusions to recreationists on the adjoining public lands.

Other Recreation Use: An increase in non-motorized recreation trail use will result from this alternative. This will benefit users of this type of facility with minimal impacts expected to resources such as archaeological sites, soils, riparian vegetation, watershed and other recreational pursuits with the possible exception of encounters with hunters who will also benefit from trail construction.

Alternative 2 (Public Recreation Emphasis)

Cultural Resources: Increased visitation invites potential archaeological impacts from vandals and looters (one or more incidents per year) and potential OHV intrusions (possibly in the scores) despite barricading and signing. Public archaeological and historical site interpretation/education will be enhanced, although such work will necessitate expenditures (hundreds to thousands of dollars per year) that might take away some focus from other important locations needing cultural interpretation.

Firearms Use: The alternative raises safety and liability concerns from the presence of a formal or semi-formal firearm shooting range and close proximity to housing. There is an indirect effect of casual shooters operating away from the range illegally endangering nearby residents with errant bullets (at least several incidents per year). There is also the consideration of shooting noise nuisance to nearby residents.

Human Health and Safety: Aside from issues stated above with regard to firearm use, well-regulated fire and fuels management activities will decrease the endangerment of habitat and residential/life loss due to fires as discussed under Alternative 1 and in Appendix 4.

Motorized Vehicle Use/Accelerated Soil Erosion: There will remain the high possibility of illegal off-road motorized vehicle use with this alternative, although less than under the existing situation due to barricading and signing. Under this alternative it is projected that soil/sediment loss would be less than 10 cubic yards per year from surface damage from motorized vehicle use away from designated routes.

Land Tenure Decisions: Retention of public lands scheduled for disposal will prevent Straight Arrow Bowhunters Inc. expansion. On the other hand, retention will allow more efficient management of the watershed, greenbelt, and various natural and cultural resources; prevent or lessen visual and auditory intrusions and trespass, and form a protective landscape buffer for archaeological sites and various recreation users, including trail enthusiasts.

Acquisition of the private in-holding (following approval of a plan amendment), seller willing and funds/workforce commitments made available, will provide landscape management continuity of a major watershed, potentially lessen trespass and ingress/egress problems to the parcel, possibly facilitate sediment and toxic substance reduction in a branch of Olney Creek, and allow a broader application of recreation opportunities. Also, such acquisition may reduce visual and noise intrusions to recreationists on the adjoining public lands.

Other Recreation Uses: Construction of a primitive campground in the proposed disposal area will be convenient for Straight Arrow Bowhunters Inc. users and others offering another facility for recreational use. On the other hand, this facility, if developed, could take away human resources and money from other facilities and focus areas and potentially form an administrative headache.

Allowance of expanded Straight Arrow Bowhunters, Inc. shoot opportunities on a periodic basis will enrich this form of recreational experience, although such use would temporarily restrict other recreation-based uses and may tax administrative and law enforcement capabilities.

This alternative would allow an increase in primitive trail use with possible conflicts with gun range users, especially in terms of perceived safety considerations (errant bullets) and periodic noise pollution from shooting alarming trail users and their animals, if accompanying, such as horses.

The potential for indirect impacts to natural resources from perceived heavy visitor use and overflow exists with this alternative. Trail use, for instance, would have to be monitored for excess soil damage and erosion, although expected impacts are perceived as minimal.

Alternative 3 - Mixed Public Use and Resource Protection Emphasis

Cultural Resources: Archaeological site protection will likely be enhanced due to limitations on vehicle/visitor access and a focus on interpretation. However, vehicle closure will also prevent informal monitoring of some of the sites by certain visitors who use motorized vehicles on the designated roads. More non-motorized trail use could lead to visitors damaging cultural resources since there will likely be an increase in dispersed recreation use and site encounters. This is especially true at secluded sites where there may be a temptation to collect artifacts.

Firearm Use/Human Health and Safety. Firearm use will remain an issue even with exact gun range restrictions since there is still the possibility of errant bullets from a formalized range and focused shooting. Lead may contaminate Olney Creek through continued use. Lead in the gun range may pose a safety hazard to users, especially from airborne lead particulate matter.

Closure to Motorized Vehicle Use will preclude some recreation play (perhaps 50% less as an intuitive estimate) compared to existing conditions.

Accelerated Soil Erosion will likely lessen and watershed protection would be enhanced with this alternative. This is especially so with respect to erosion that would result from motorized vehicle use away from designated routes. Possibly 5-10 cubic yards of soil/sediment loss may be prevented.

Fire and Fuels Management (see Alternative 1 discussion)

Land Tenure Adjustment: (see Alternative 1 discussion)

Non-motorized Recreation Trail Construction will likely be enhanced in this alternative with increased recreational activities (hundreds of visitors per year) related to this use.

CHAPTER 5—CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Those actions that will be conducted irrespective of the choice of plan alternative are beneficial to good land stewardship and have a positive cumulative effect.

- Archaeological sites and natural resources would be protected on a case by case basis.
- There would continue to be law enforcement that will hopefully be more efficient with better facility development and management focus under some of the alternatives.
- Clean-up of trash will carry on, the degree more or less depending on the alternative direction. The more restriction, such as nighttime closure, the less trash dumping is anticipated.
- There would be an on-going focus on safety but not as substantial within most alternatives as the no-action alternative where the risks to the public are judged to be higher.
- Existing rights-of-way would be maintained and limited to the ACEC/study area east edge as presently in place.
- Environmental education and resource stewardship would be encouraged to some level, perhaps constrained by conflicting activities such as shooting which is allowable under some alternatives.
- Under all alternatives there would remain a very low level of risk to structures and life from fuel reduction activities and potential runaway fires. This must be balanced with the possibility of catastrophic fire should fuel reduction activities not be implemented. The no action alternative would lead to a continuance in vegetation community decadence with less vegetation mix and less animal habitat diversity.
- Closure of the area to camping except under special permit would lessen this recreation experience by 500 or less visitor days per year. The result would be less trash disposal and fire danger.
- Well-regulated commercial mining would be focused away from sensitive resources but could conceivably still leave some scarring.
- A 100 foot ground-disturbing project buffer (other than at existing developed crossings and in relation to habitat improvement for protected species) will be applied to the principal reaches of Olney Creek.

➤ Surveys for Survey and Manage terrestrial mollusks, federally protected salmonid species, foothill yellow-legged frog (BLM Sensitive Species), archaeological sites and federally protected plants will be conducted as part of the Environmental Analysis prior to ground disturbing activities. Avoidance of impacts will be the principle action in all cases.

Under **the Existing Management Situation** option, resources would continue to be managed on an ad hoc basis with potential increased costs to the taxpayer.

➤ Continuation of long-term gun range use, while possibly controlled by private sector interests through adoption of the range by a user group, would still pose potential threats to non-shooting users such as bikers, horseback riders, nearby homeowners and the like through wayward bullets or “mavericks” who would like to shoot away from the range. Some visitors and nearby homeowners would continue to be alarmed or disturbed by gunfire noise. Furthermore, since safety risks may continue at an unacceptable level, closing the area for this reason only would be limiting to other recreationalists and visitors.

➤ Unacceptable off-highway damage could also lead to closure lessening this form of recreation by some 1000 or more visitor days.

➤ Newly developed hiking/biking/horseback riding trails--where they come close to the existing shooting area--pose a potential safety conflict if shooters tend to disregard safe backgrounds. There is also the perception through gunfire noise that there could be stray bullets that could cause injury or death thereby lessening this form of recreational experience.

➤ A formalized management plan and schedule would be cost efficient and beneficial to the cultural and natural resource base since it sets up a series of actions that can be tracked and budgeted and interrelated to safe multiple resource use.

Proposed Action (Alternative 1): Implementation of the proposed action would require no irreversible or irretrievable commitment of resources. The land is managed principally for the conservation and protection of cultural and environmental resources with passive recreation activities predominant.

➤ The impacts to cultural and ecological resources overall would be quite positive since these various assets will be aggressively protected, studied and interpreted for the public’s benefit.

➤ Nighttime closure would lessen illegal activities such as dumping, random shooting, teenage partying, drug use, and fire danger from illegal campfires. Limitations on recreational uses will be minimal.

➤ Remediation of the gun range will lessen hazardous waste in the area, especially lead.

Under **Alternative 2**, the public recreation option, increased visitor use could create conflicts with resource protection.

- Illegal off road vehicle use will be further curtailed resulting in 100s of square yards of less surface soil disturbance based on past damage and intuitive estimates.
- Shooting area restrictions and adoption would lessen current safety concerns. However, as discussed under the existing management alternative, there would continue to be some safety anxieties and tension among non-shooting recreationalists who would hear the gunfire and possibly misunderstand the firing direction, even if well-controlled.
- Generally with more recreation there is a greater likelihood of intentional or unintentional damage to cultural resources through digging, casual collecting, rummaging through features such as chimneys/cabin foundations, arrastras, midden backdirt, driving over sites, etc. On the other hand, more visitors undertaking passive recreational pursuits can sometimes provide eyes and ears for BLM by watching over sites. Overall, there would probably be no more than one negative incident per year.
- Increase in visitation by the public raises the possibility of accidental fire and damage to resources and neighbors.

With the adoption of **Alternative 3** heavy restrictions would be placed on visitor use and demanding management and budgetary commitments that would be difficult to balance with other obligations in other areas.

- Closure of the location to OHV use except under permit would likely lessen this recreation experience by several thousand or more visitor days per year. On the other hand, the likelihood of OHV damage to soils and archaeological sites would be lessened by a surface acre or less per year in terms of soil/sediment displacement and fewer than one illegal heritage-damaging incident per year.
- Restrictions on gun range use would lessen this recreational experience by several thousand visitor days or more per year.

CHAPTER 6—COORDINATION AND CONSULTATION

(to be written following public review and agency coordination on draft plan)

LIST OF PREPARERS

Name	BLM Position.....	Planning Function
Eric W. Ritter	Archaeologist.....	Team Leader, Archaeology, History, Native American Indian Coordination
Francis Berg	Chief of Resources	Review, Oversight
John Borgic	Forester	Forestry, Vegetation Management
Andrea Carter	Fuels Specialist	Fire and Fuels Management
Dave Cook	Computer Specialist, GIS	Map Preparation
Irvin Fernandez	Wildlife Biology	Special Status Species
Pat Hagan	Law Enforcement Ranger	Law Enforcement Issues
Stace Hallstrom	Public Contact Representative	Public Contact
Traci Hallstrom	Public Contact Representative	Public Contact, Web Site
Walter Herzog	Fire Management Office... Vegetation Management, Fire Suppression	
Keith Hughes	Wildlife Biologist	Wildlife Management Issues
Andy Isola	OHV Specialist	OHV Recreation Management
Bill Kuntz	Outdoor Recreation Planner	Recreation Issues
Brandt Gutermuth	Fisheries Biologist	Fisheries Resources
Patrick Mikesell	Realty Clerk	Ownership Information
Glen Miller	Planning and Environmental Coordinator	Oversight
Joe Molter	Botanist.....	Special Status Plant Mgt, Vegetation, Weeds
Gary Mullett	Engineer	Roads, Developments
Susie Rodriguez	Realty Specialist	Realty Issues
Ron Rogers	Geologist	Geology, Minerals
Chuck Schultz	Field Manager.....	Oversight
Karl Stein	Fisheries Biologist	Fisheries Biology
Andy Suppiger	GIS Specialist	Map Preparation
Mike Truden	Supervisory Realty Specialist	Realty Issues
Joe Tyler	Maintenance Specialist	Facility Maintenance Issues

APPENDIX 1
Known Archaeological Sites in the Planning Area

Site Number	Site Name	Characteristics
CA-SHA-1780/H	Confusion Cabin	historic cabin foundation and refuse scatter, small dam and reservoir (Clear Creek Ditch associated?)
CA-SHA-1781/H	Bed Shed	Early 20th century habitation site—cabin, dump
CA-SHA-1782/H	Caterpillar Ditch	mining ditch, two rock dams, smaller ditches
CA-SHA-1783/H	Our First	19 th century cabin foundation, arrastra, tailing features
CA-SHA-1784/H	Boswell Mine	mining complex of foundations and workings
CA-SHA-2165/H	Clear Creek Ditch	segment of major ditch in county
CA-SHA-2426/H	Caitlan Dam	Historic rock and earth dam, reservoir, tailings, depression and ditch related to mining
CA-SHA-2427/H	Druid Dam	Small historic dam, tailings, stone wall and rock plugs related to mining
CA-SHA-2428/H	Maeve Dam	Historic rock and earth dam and reservoir related to mining
CA-SHA-2429/H	Adam Springs	historic spring development, dam, reservoir, tailings and building pads.
CA-SHA-1544/H	Middle Mule Pond Site	Major midden deposit partially excavated by CSU Chico
CA-SHA-1785/H	Trench Site	older appearing midden site
CA-SHA-1779	Ring Site	shallow lithic scatter with possible housepit
CA-SHA-1786	Here-Be-Bees Site	major midden deposit
CA-SHA-1991	Tanya Site	major midden site with large community house partially excavated by Shasta College
CA-SHA-2424	PaHa Site	housepit village with midden
CA-SHA-2425	Rollerskate Site	probable temporary camp with shallow deposit
CA-SHA-2430	Ryan Site	small occupation midden and historic cabin foundation and dump
CA-SHA-2433/H	Thistle Ridge Site	Moderate sized midden and cabin foundation—edge of planning area
None	Olney Creek Mortar	isolated hopper mortar

APPENDIX 2
Road and Trail Maintenance
(available in hard copy only)

APPENDIX 3
(ANALYTICAL RESULTS OF CATION TESTING)
(available in hard copy only)

APPENDIX 4

Fuels and Fire Goals Strategy

The vegetation in the Swasey planning area consists of Oak Woodland, Shrubland, and minor areas of Mixed Conifer. Historically, this type of vegetation in this area burned every 5-30 years in what is classified as a “low intensity” fire. A fire of this type burned close to the ground with very little vegetation mortality and helped to maintain a generally open stand structure. Due to fire suppression, a change in land practices, and society’s overall perception of fire as harmful, the vegetation is overgrown. Currently if a fire were to burn in this area there would be significant mortality of the vegetation, threats to lives and homes, and probable loss of key ecosystem components. A fuel management strategy of thinning the vegetation and conducting prescribed burns is needed to reduce the threat that a high intensity wildland fire will destroy this area.

Direction on how this should be completed was given in the 2001 National Fire Plan and the 10-Year Comprehensive Strategy of the Department of Interior, Department of Agriculture and state governors. This document was prepared in the aftermath of some of the worst fire seasons in history and is used as a guideline for conducting fuels management.

10-Year Comprehensive Strategy

This strategy reflects the views of a broad cross-section of governmental and nongovernmental stakeholders. It outlines a comprehensive approach to the management of wildland fire, hazardous fuels, and ecosystem restoration and rehabilitation on Federal and adjacent State, tribal, and private forest and range lands in the United States. This strategy emphasizes measures to reduce the risk to communities and the environment and provides an effective framework for collaboration to accomplish this. Congress directed the Secretaries of the Interior and Agriculture to work with the Governors to develop this strategy in the FY 2001 Interior and Related Agencies Appropriations Act (P.L. 106-291). The direction requires “close collaboration among citizens and governments at all levels,” which, by extension, includes a geographically diverse group of people, representing all levels of government, tribal interests, conservation and commodity groups, and community-based restoration groups. A set of core principles was developed to guide the identification of goals for this strategy. These principles include such concepts as collaboration, priority setting, and accountability. An open, collaborative process among multiple levels of government and a range of interests will characterize the fulfillment of this strategy. The end results sought by all stakeholders are healthier watersheds, enhanced community protection, and diminished risk and consequences of severe wildland fires. The primary goals of the 10-Year Comprehensive Strategy are:

- 1. Improve Prevention and Suppression*
- 2. Reduce Hazardous Fuels*

- 3. *Restore Fire Adapted Ecosystems*
- 4. *Promote Community Assistance*

Goals

Guiding Principle:

Hazardous Fuel Reduction – Prioritize hazardous fuels reduction where the negative impacts of wildland fire are greatest.

- Reduce the total number of acres at risk to severe wildland fire.
- Ensure communities most at risk in the wildland-urban interface receive priority for hazardous fuels treatment.
- Expand and improve integration of the hazardous fuels management program to reduce severe wildland fires to protect communities and the environment.
- Incorporate public health and environmental quality considerations in fire management activities undertaken for the hazardous fuels management program.
- Develop smoke management plans in conjunction with prescribed fire planning and implementation.
- Develop strategies to address fire-prone ecosystem problems that augment fire risk or threaten sustainability of these areas.
- Assure maintenance of areas improved by fuels treatment by managing activities permitted on the restored lands to maintain their resiliency.
- Conduct and utilize research to support the reduction of hazardous fuels in wildland urban interface communities and environments.
- Ensure local environmental conditions are factored into hazardous fuels treatment planning.

Reduce Hazardous Fuels

Actions

According to the *10-year Comprehensive Strategy* (see www.fireplan.gov/FIRE.REPORT.1.pdf) goals 2-4 state:

- **Prioritize hazardous fuels reduction where the negative impacts of wildland fire are greatest.**
- **Restore healthy, diverse, and resilient ecological systems to minimize uncharacteristically severe fires on a priority watershed basis through long-term restoration.**
- **Employ all appropriate means to stimulate industries that will utilize small-diameter, woody material resulting from hazardous fuel reduction activities, such as for biomass electric power, pulp and paper-making, and composite structural building materials.**

According to the report **Protecting People and Sustaining Resources in Fire-Adapted Ecosystems A Cohesive Strategy**, (see www.fireplan.gov/cohesive.htm) *most forests and grasslands in the interior west and their associated species are fire-adapted. Some, known as “short interval” fire-adapted ecosystems, evolved from frequent, low-intensity fires that burned surface fuels.*

Historically the planning area would be classified as a fire regime group 1, which is a fire of a low severity burning in the area every 0-35 years (see 1999 GAO report). A low intensity fire is one in which the fire can be fought using handtools. This is further defined as a fire having flame lengths less than 4 feet. By sampling the planning area it was found that the majority of the stand is over grown with trees and brush competing for limited space and nutrients. This would indicate that a significant fire event has not happened in quite some time and the result has been an over accumulation vegetation has

grown that has competed for nutrients and suppressed regeneration from occurring. With this information we can conclude that there have been 3-10 fire return cycles missed. This would place this area in a condition class 3 where fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range (see 1999 GAO report). To clarify this point if a wildfire were to originate within or directly adjacent to this area, threats to both life and property can be anticipated. This can be attributed to the excessive amount of fuel accumulation both on the ground and standing. There are 3 things that contribute to the severity of a fire: weather, topography, and fuels. Obviously humans cannot directly change weather or topography but we can modify fuels. Another key point is the risk of an ignition. This area receives some of the highest recreation use on the forest and statistical fire causes are significantly contributed to humans.

REFERENCES CITED

U.S. General Accounting Office

1999 *Western National Forests, A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats*. Washington D.C.

GLOSSARY

Fire Regime – A generalized description of the role fire plays in an ecosystem. It is characterized by fire frequency, predictability, seasonality, intensity, duration, scale (patch size), as well as regularity or variability. Five combinations of fire frequency, expressed as fire return interval in fire severity, are defined:

Groups I and II include fire return intervals in the 0 – 35 year range. Group 1 includes Ponderosa pine, other long needle pine species, and dry site Douglas fir. Group II includes the drier grassland types, tall grass prairie, and some Pacific chaparral ecosystems.

Groups III and IV include fire return intervals in the 35-100+ year range. Group III includes interior dry site shrub communities such as sagebrush and chaparral ecosystems. Group IV includes lodgepole pine and jack pine.

Group V is the long interval (infrequent), stand replacement fire regime and includes temperate rain forest, boreal forest, and high elevation conifer species.

Condition Class – Based on coarse scale national data, Fire Condition Classes measure general wildfire risk as follows:

Condition Class 1. For the most part, fire regimes in this Fire Condition Class are within historical ranges. Vegetation composition and structure are intact. Thus, the risk of losing key ecosystem components from the occurrence of fire remains relatively low.

Condition Class 2. Fire regimes on these lands have been moderately altered from their historical range by either increased or decreased fire frequency. A moderate risk of losing key ecosystem components has been identified on these lands.

Condition Class 3. Fire regimes on these lands have been significantly altered from their historical return interval. The risk of losing key ecosystem components from fire is high. Fire frequencies have departed from historical ranges by multiple return intervals. Vegetation composition, structure and diversity have been significantly altered. Consequently, these lands verge on the greatest risk of ecological collapse

Fire Management Planning: A generic term referring to all levels and categories of fire management planning, including: preparedness, prevention, hazardous risk assessment, and mitigation planning.

Fire-prone Ecosystem - Ecosystems that historically burned intensely at low frequencies (stand replacing fires), those that burned with low intensity at a high frequency (understory fires), and those that burned very infrequently historically, but are now subject to much more frequent fires because of changed conditions. These include fire-influenced and fire-adapted ecosystems.

Ecosystem – A spatially explicit, relatively homogeneous unit of the Earth that includes all interacting organisms and components of any part of the natural environment within its boundaries. An ecosystem can be of any size, e.g., a log, pond, field, forest, or the Earth's biosphere.

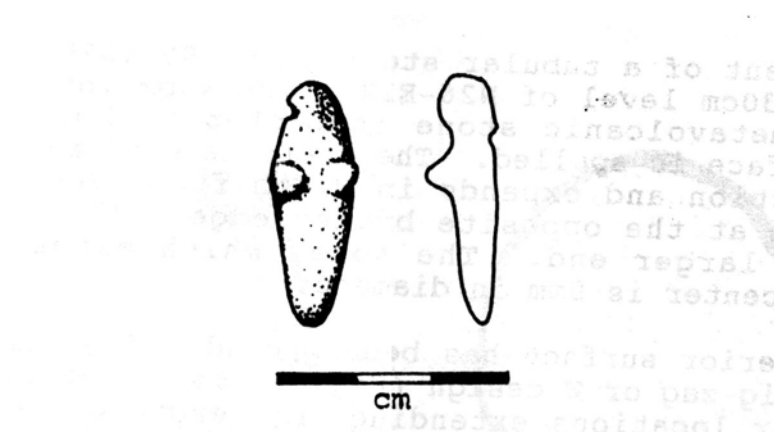
Ecosystem Integrity – The completeness of an ecosystem that at geographic and temporal scales maintains its characteristic diversity of biological and physical components, composition, structure, and function.

Resiliency – The capacity of an ecosystem to maintain or regain normal function and development following disturbance.

Fire-prone ecosystem – Ecosystems that historically burned intensely at low frequencies (stand replacing fires), those that burned with low intensity at a high frequency (understory fires), and those that burned very infrequently historically, but are now subject to much more frequent fires because of changed conditions. These include fire-influenced and fire adapted ecosystems.

Severe wildland fire (catastrophic wildfire) – Fire that burns more intensely than the natural or historical range of variability, thereby fundamentally changing the ecosystem, destroying communities and/or rare or threatened species/ habitat, or causing unacceptable erosion (see 1999 GAO report).

Wildland urban interface – The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.



Clay figurine from the Tanya Site

TABLE 1
COST ESTIMATES AND PROJECT IMPLEMENTATION PHASING

ACTION	EXIST.	ALT. 2	ALT 3	PROPOSED ALT. 1	PHASING	COSTS
(1) Barricade/fence non-designated roads and vehicular ingress points	+	+	+	+	FY 2004*	\$2000.00 1 WM**
(2) Maintain designated roads and trails on at least a yearly basis	+	+	+	+	On-going	0.5 WM/year
(3) Designate Clear Creek Ditch Loop Trail and east-west trail(s) as non- motorized	+	+	+	+	FY 2004	Negligible
(4) Archaeological site monitoring	+	+	+	+	On-going	Volunteers, law enforcement, archaeologist
(5) Monitor and upkeep of fence and gates at Here-Be-Bees archaeological site and access points.	+	+	+	+	On-going	Negligible
(6) Monitor and maintain other protective fencing (Middle Mule, Tanya, new fences) construct walking access gate to Tanya Site for public interpretation with signing	+	+	+	+	On-going Tanya Site interpretation FY 2005	Several days per annum \$750.00
(7) Solicit archaeological research within ACEC	+	+	+	+	On-going	Grant requests, assistant agreements, etc. \$15,000- \$150,00
(8)	+	+	+	+	On-going	2.0 WMs total

Continue archaeological inventory and documentation						
(9) Provide interpretive signing, select vegetation removal and cleanup at Boswell Mine, Tanya Site and Clear Creek Ditch	+	+	+	+	FY 2004-2006	CDF inmate crews, volunteers, 0.5 WM, \$4000.00
(10) Restore by hand short select segments of the Clear Creek Ditch. Provide handicapped access along short stretch of ditch off of main dirt road	-	-	+	+	FY2004-2005	Volunteers \$500.00
(11) Law enforcement patrol: At least once weekly	+	+	+	+	On-going	Internal
(12) Law enforcement patrol: More than once weekly, develop area law enforcement plan	-	-	+	+	On-going, Plan by FY 2005	1 WM
(13) Install culvert on main dirt road at Olney Creek and secondary stream by private parcel	+	+	+	-	FY 2004	\$500.00
(14) Develop brochure concerning area resources, safety, trails, etc. Summarize information on BLM web site	+	+	+	+	FY 2005	\$1000.00
(15) Solicit public involvement in ecology management and educational field trips through announcements,	+	+	+	+	FY 2004	Internal

visitor contacts and
web site

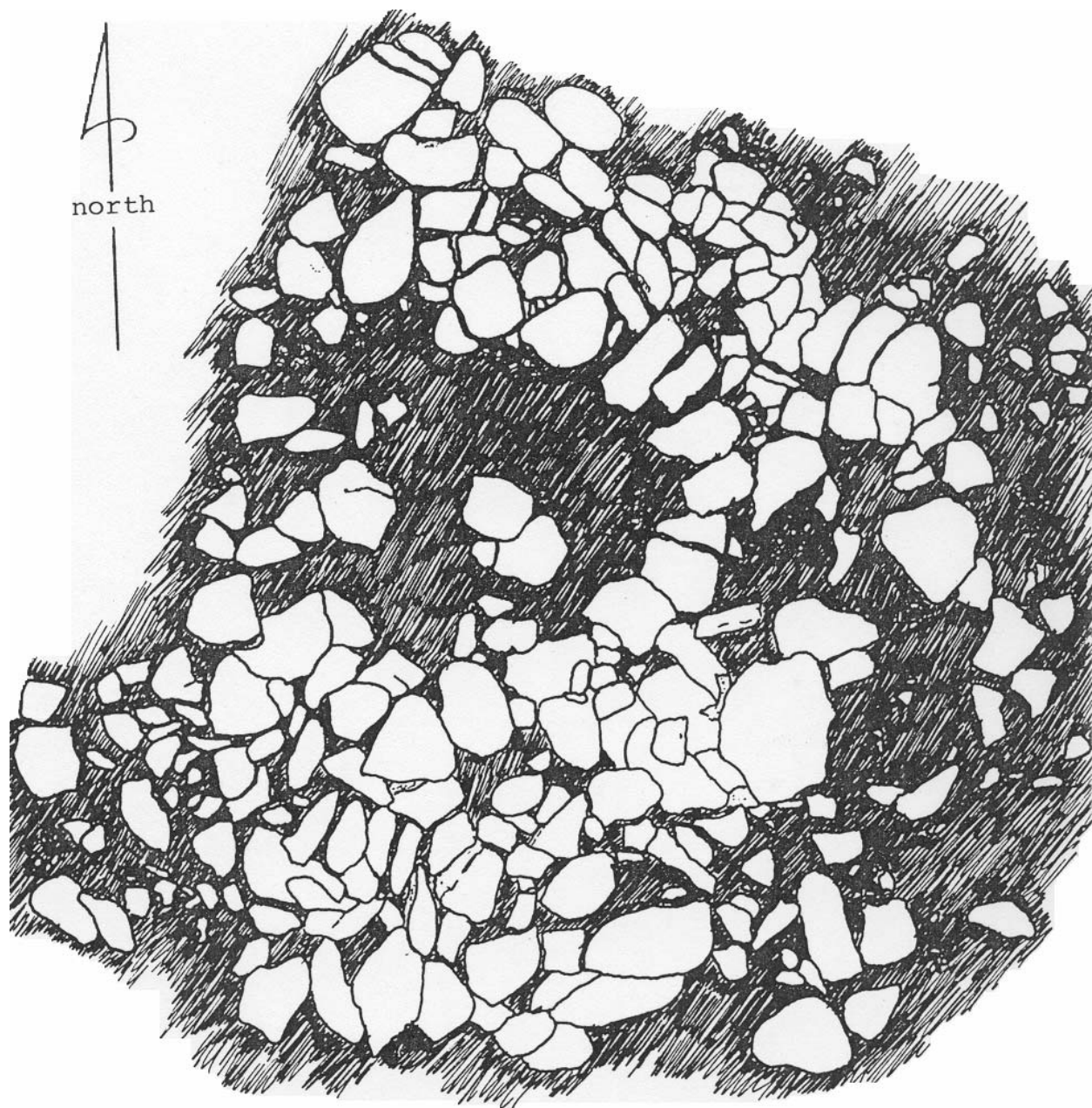
(16) Entryway kiosk eventual replacement; entryway sign design and placement; highway directional signs	-	+	+	+	FY 2006 for kiosk replacement; FY 2005 for entryway/Swasey Drive signs' placement	0.5 WM \$2500.00
(17) Improve Swasey section of Interagency Wildfire Suppression Field Operation Guide	+	+	+	+	FY 2004	0.5 WM,
(18) Complete a shaded fuel break through non-mechanized methods along main east-west road and trail to link with current fuel breaks. Selectively construct other shaded fuel breaks by hand using burn piles and/or chippers by existing road access.	+	+	+	+	FY 2004 and thereafter	0.5 WM/year, \$35,000 Assistance agreement with local RCD or equivalent for initial fuelbreak; \$15,000- \$25,000 per fuelbreak thereafter
(19) Maintain new and existing fuel breaks by hand work, goats, herbicide, and limited fire means	+	+	+	+	FY 2007 and thereafter every 4-10 years	0.5 WM/year \$10,000/mile
(20) Conduct low to moderate heat intensity controlled ground fires at select units throughout planning area	+	+	+	+	FY 2005 and thereafter	1 WM/year Interagency \$200/acre, 5- 200 acre blocks

(22) Cleanup of trash and deadfall on roads, trails and facilities	+	+	+	+	On-going	Internal
(23) Acquisition of private in- holding—willing seller. If acquired manage consistent with rest of area	-	+	+	+	On-going	2WMs purchase price
(24) Confinement of permitted bee hives to two non- sensitive locations	+	+	+	+	On-going	Internal
(25) Cooperative development of shooting area	-	+	+	-	FY 2004-2005	1 WM \$5000 (tables, toilet, garbage cans, signs, etc.)
(26) Limited mechanical development of shooting area	+	-	-	+(phased out)	FY 2004-2005	0.5 WM
(27) Rehabilitation of shooting area, conversion to general recreation area after 2 years	-	-	-	+	FY 2006-2008	Volunteer assistance, 2 WMs, \$5000- \$50,000 ???
(28) Erosion control and rehabilitation of area opposite bow range and select road/trail scars	+	+	+	+	FY 2004-2005 and as needed	1 WM \$3000.00
(29) Rehabilitate modern mining trenches	+	+	+	+	FY 2005	0.5 WM
(30) Develop primitive camping area opposite bow range (road barriers, campfire rings, signs, etc.)	-	+	+	-	FY 2005	1 WM \$ 500.00

(31) Establish and sign public boundary on east and south sides and around private in- holding	+	+	+	+	FY 2004-2007	2 WM \$1000.00
(32) Integrate recreation uses within Swasey planning area with area west of Mule Mountain and Whiskeytown	+	+	+	+	On-going	Negligible
(33) Administratively close area to nighttime motorized vehicle use	-	-	+	+	FY 2004	Negligible

* Fiscal Year (runs Oct. 1 to Oct. 1)

** WM = work months



Chinese Oven/Hearth, Swasey

